OLIVENHAIN
Municipal Water District
A Public Agency

Draft Initial Study and Mitigated Negative Declaration

San Dieguito Valley Groundwater Desalination Design Pilot

September 2018

Prepared by:

WOODARD &CURRAN

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Prepared for:

Olivenhain Municipal Water District
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Encinitas, CA 92024

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COMMITMENT & INTEGRITY DRIVE RESULTS

Olivenhain Municipal Water District
September 2018

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APPENDICES

ACRONYM LIST

AB	Assembly Bill
AF	Acre-Feet
AGR	Agricultural
BMPs	Best Management Practices
C_2Oe	Carbon Dioxide Equivalents
CAAQS	California Ambient Air Quality Standards
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	Methane
CNEL	Community Noise Equivalent Level
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COLD	Cold Freshwater Habitat
CSD	Community Services District
dB	Decibel
DTSC	(California) Department of Toxic Substances Control
EIR	Environmental Impact Report
EO	Executive Order
EPA	Environmental Protection Agency
GHG	Greenhouse Gases

gpm	Gallons Per Minute
GWP	Global Warming Potential
FEMA	Federal Emergency Management Agency
IID	Imperial Irrigation District
IND	Industrial
IS/MND	Initial Study/Mitigated Negative Declaration
JPA	Joint Powers Authority
LRA	Local Responsibility Area
LUST	Leaking Underground Storage Tank
NPDES	National Pollutant Discharge Elimination System
MOA	Memorandum of Agreement
MRZ	Mineral Resource Zone
MSCP	Multiple Species Conservation Program
MFHSZ	Moderate Fire Hazard Severity Zone
MUN	Municipal
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NO_x	Oxides of Nitrogen
NPDES	National Pollution Discharge Elimination System
OSHA	Occupational Safety and Health Administration
$PM_{2.5}$	Fine Particulate Matter
PM_{10}	Respirable Particulate Matter
PVC	Polyvinyl Chloride
O_3	Ozone
OMWD	Olivenhain Municipal Water District
O&M	Operations & Maintenance
RAQS	Regional Air Quality Strategy
REC-1	Contact Water Recreation
REC-2	Non-contact Water Recreation
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SB	Senate Bill
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDCWA	San Diego County Water Authority
SEJPA	San Elijo Joint Powers Authority
SIP	State Implementation Plan
SPWN	Spawning, Reproduction and/or Early Development
SRA	State Responsibility Area

SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
USA	Underground Services Alert
USGS	US Geological Survey
UWMP	Urban Water Management Plan
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
WARM	Warm Freshwater Habitat
WILD	Wildlife Habitat
WRF	Water Reclamation Facility

1. INTRODUCTION

1.1 Scope and Use of this Document

This document is a Draft Initial Study/Mitigated Negative Declaration (IS/MND) that addresses the potential environmental impacts of the San Dieguito Valley Groundwater Desalination Design Pilot (the Project). This IS/MND has been prepared by Olivenhain Municipal Water District (OMWD or "the District") as lead agency under the California Environmental Quality Act (CEQA).

This IS/MND provides an assessment of the potential impacts on environmental resources that would result from implementing the Project. The discussion and level of analysis are commensurate with the expected magnitude and severity of each impact to environmental resources. This document evaluates the potential for impacts to resource areas identified in Appendix G of the CEQA Guidelines. These resource areas are listed in *Section 3 Environmental Checklist Form* below.

1.2 CEQA Process

In accordance with CEQA Guidelines §15073, this IS/MND is being circulated to local and state agencies, and to interested organizations and individuals who may wish to review and comment on the report. OMWD has circulated the Draft IS/MND to the State Clearinghouse and interested entities for distribution and public review (October 18 – November 17, 2018). OMWD's Board of Directors will hold a public hearing to receive verbal comments on this Draft IS/MND on November 7, 2018 at the address listed below.

OMWD will evaluate comments received on the Draft IS/MND and will prepare responses to address any substantial evidence that the proposed Project could have a significant impact on the environment. If there is no such substantial evidence, OMWD as lead agency will adopt the MND in compliance with CEQA. Written comments should be submitted to OMWD by 5:00 PM on Saturday, November 17, 2018.

Submit comments to:

Joey Randall, Assistant General Manager
Olivenhain Municipal Water District
1966 Olivenhain Road
Encinitas, CA 92024
JRandall@olivenhain.com

This IS/MND and any comments received during the public review process will be considered for adoption by OMWD's Board of Directors on December 12, 2018 at the address listed above.

1.3 Impact Terminology

The anticipated environmental impacts are identified for each of the resource areas listed in *Section 3 Environmental Checklist Form*. The level of significance for each resource area is described using CEQA terminology as specified below:

- Potentially Significant. Adverse environmental consequences that have the potential to be significant according to the threshold criteria identified for the resource, even after mitigation strategies are applied and/or an adverse effect that could be significant and for which no mitigation has been identified. If any potentially significant impacts are identified, an Environmental Impact Report (EIR) must be prepared to meet the requirements of CEQA.

- Less Than Significant with Mitigation Incorporated. Adverse environmental consequences that have the potential to be significant but can be reduced to less than significant levels through the application of identified mitigation strategies that have not already been incorporated into the proposed project.
- Less than Significant. Potential adverse environmental consequences have been identified. However, they are not so adverse as to meet the significance threshold criteria for that resource. Therefore, no mitigation measures are required.
- No Impact. No adverse environmental consequences have been identified for the resource or the consequences are negligible or undetectable. Therefore, no mitigation measures are required

2. PROJECT DESCRIPTION

2.1 Project Overview

Olivenhain Municipal Water District (OMWD) is a public agency in north San Diego County, providing water, wastewater, and recycled water service, hydroelectric power generation, and the operation of Elfin Forest Recreational Reserve. OMWD was formed on April 9, 1959, and on June 14, 1960 voted to become a member of the San Diego County Water Authority (SDCWA), itself a member of Metropolitan Water District of Southern California (Metropolitan). OMWD covers an area of approximately 48 square miles and serves approximately 86,000 customers through 27,000 potable water meters including portions of Encinitas, Carlsbad, San Marcos, San Diego, Solana Beach and surrounding communities.

With limited local water supplies of its own, consisting only of recycled water, OMWD is 100% reliant on SDCWA to meet potable water demands within its service area. Faced with rising costs, decreasing availability, and uncertain future reliability of this purchased water, OMWD faces the same challenge as many other southern California agencies – to develop and expand its local water supplies to achieve long-term water reliability, control costs, and advance sustainability. As San Diego County's major sources of potable water—the State Water Project and the Colorado River—are under pressure due to State and environmental restrictions and the enduring uncertainty of drought, local groundwater supplies are imperative to maintaining a regional economy that is dependent upon a reliable source of water.

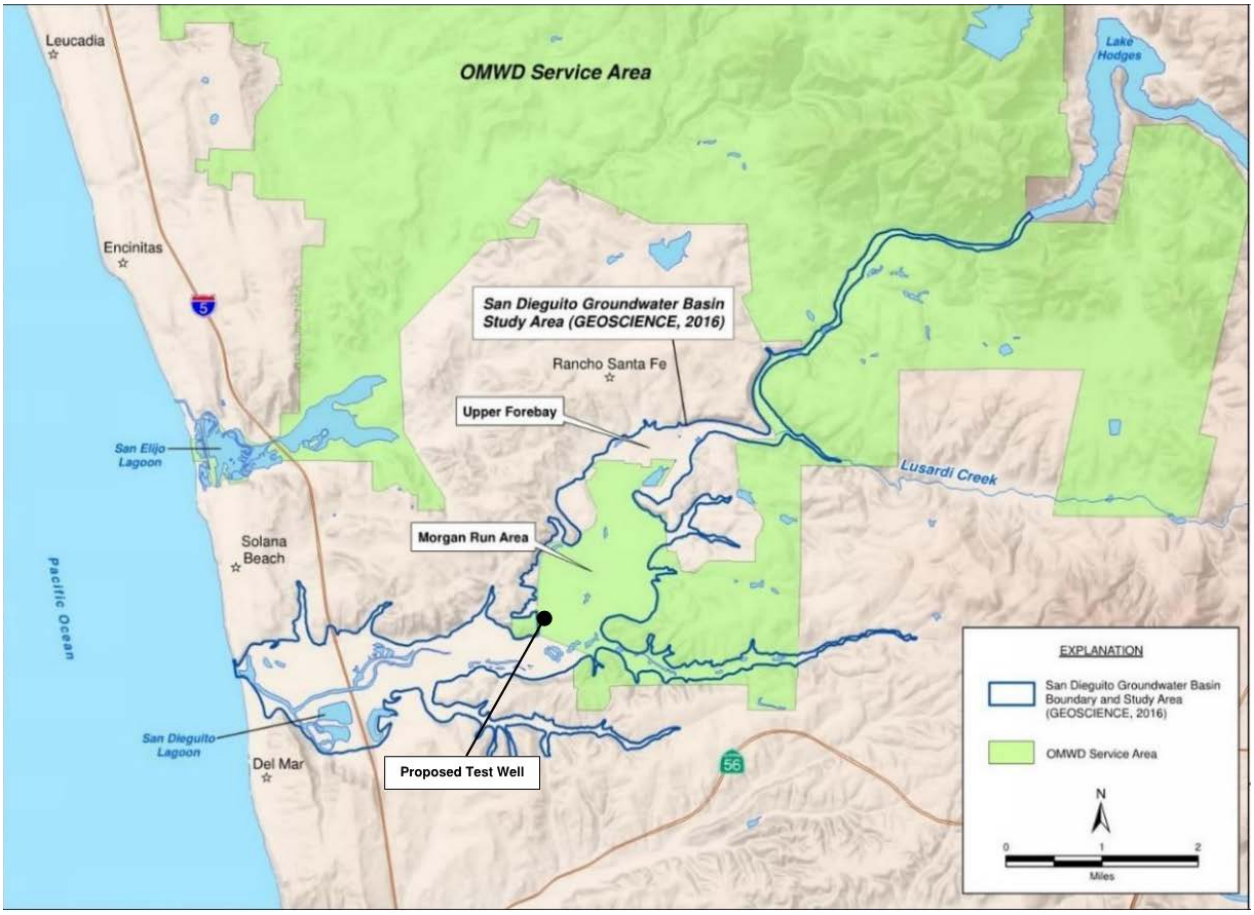
OMWD is proposing the San Dieguito Valley Groundwater Desalination Design Pilot (Project) to evaluate the feasibility of desalinating the brackish groundwater in the San Dieguito Valley groundwater basin. This design pilot supports the future use of available local groundwater and reduces reliance on imported water.

This IS/MND evaluates the potential environmental impacts associated with construction of the design pilot, as well as operations and maintenance (O&M) activities associated with the year-long pump test.

2.2 Project Site Setting

The Project is located on City of San Diego lands within the San Dieguito River Valley. Adjacent land uses include the Morgan Run Resort & Club to the north, Rancho Paseana to the east, San Dieguito River and Fairbanks Ranch Country Club to the south, and Surf Cup Sports, LLC (Surf Cup) and Via de la Valle to the west (see Figure 2-1). The proposed test well site and discharge pipelines can be accessed from Via de la Valle, along an existing dirt access road on the Surf Cup property.

Figure 2-1: Regional Location



2.3 Project Objectives

The primary objectives of the Project include the following:

- To provide safe, reliable, high-quality drinking water to each customer in a cost-effective manner,
- Verify the water balance of the San Dieguito Valley groundwater basin using data from a long-term pumping test,
- Verify potential impacts to water levels in wells of current basin users,
- Verify manganese removal by piloting pre-treatment technologies,
- To pursue renewable resources as a means of offsetting costs and energy charges, providing sustainability, and
- To establish programs and policies for water supplies to serve existing and future customers.

2.4 Project Description

The San Dieguito Valley Brackish Groundwater Desalination Design Pilot (Project) would install and conduct a one-year pump test to support Olivenhain Municipal Water District (OMWD) in pursuing brackish groundwater desalination in the San Dieguito Valley Groundwater Basin. The Project would involve installation and operation of a test well, installation and operation of manganese pre-treatment equipment, discharge of pump test water to the Surf Cup irrigation pond, and, under wet-weather periods, potential discharge of pump test water to a nearby drainage swale onsite at Surf Cup.

The Project would involve four major components: 1) pilot hole drilling and test well construction, 2) long term pump testing, 3) field testing manganese pre-treatment system, and 4) discharge of pump test water.

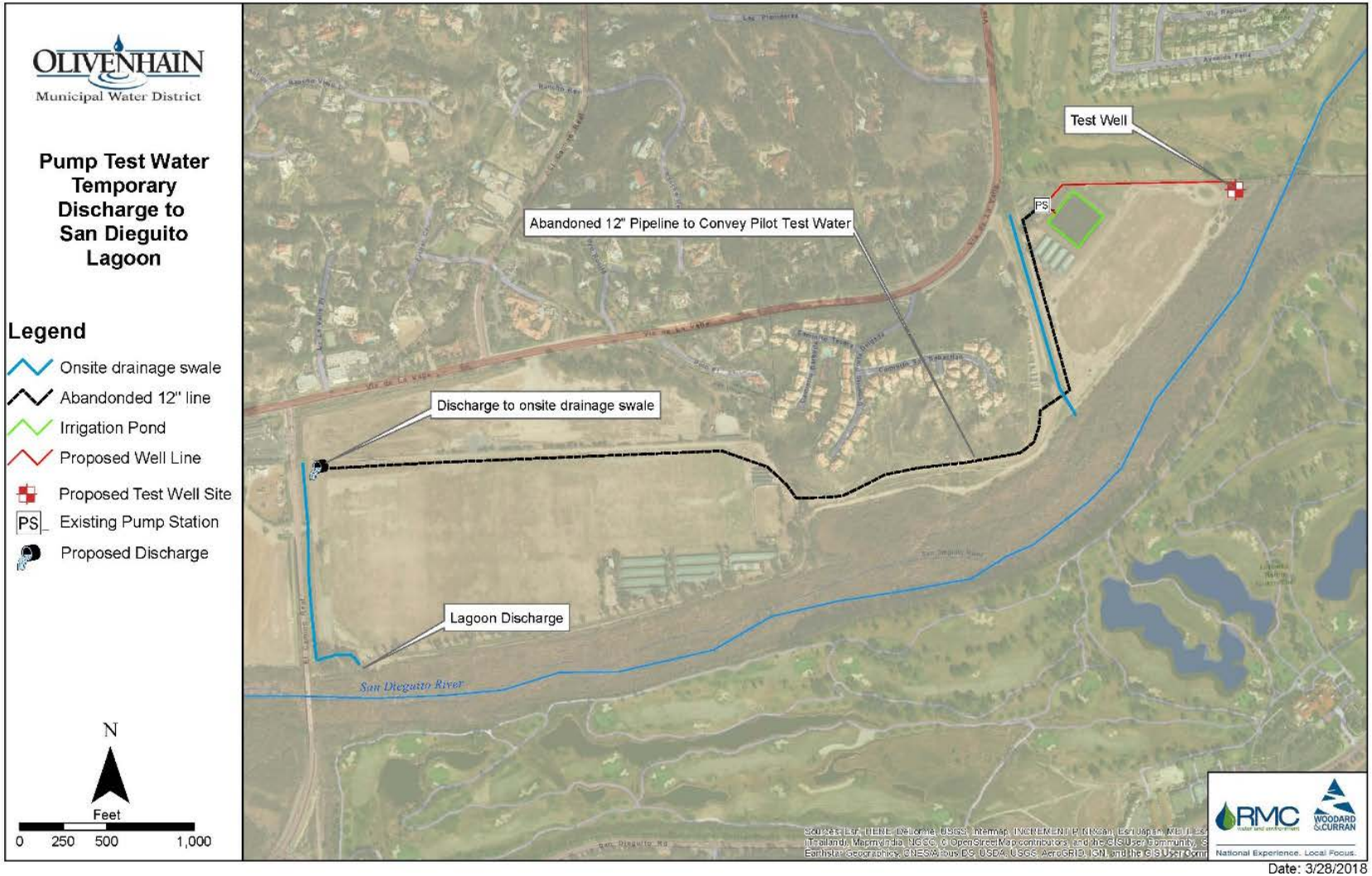
2.4.1 Pilot Hole Drilling and Test Well Construction

The Project would involve pilot hole drilling, zone testing and water quality sampling. Test well construction and development would be completed as follows:

1) prepare test well technical specifications,
2) pre-drilling contractor coordination and site mobilization inspection,
3) onsite inspection during conductor borehole drilling and casing installation,
4) inspection during pilot borehole drilling,
5) evaluation of geophysical borehole logs and selection of intervals for isolated aquifer zone testing,
6) inspection of isolated aquifer zone testing and water quality sampling,
7) mechanical grain size analysis,
8) design of casing, screen, and filter pack,
9) onsite inspection during pilot borehole reaming,
10) onsite inspection of installation of casing, screen, filter pack and annular seal,
11) onsite inspection of airlift development,
12) onsite inspection of pump development process, and
13) inspection during step and constant rate pumping tests.

The test well would be located at the northeast corner of Surf Cup property as shown in Figure 2-2. This location is bounded by Morgan Run Resort & Club to the north and San Dieguito River to the east. The construction footprint for test well construction would be 100 feet (ft.) by 20 ft. (2,000 square feet (sq. ft.)) with an impacted/disturbed area of 10,000 sq. ft. for construction staging. The operational footprint of the test well during the year-long pump test would be 20 ft. by 20 ft. (400 sq. ft.) with approximately 1,200 ft. of temporary above-grade piping to discharge into Surf Cup's irrigation system. See photos 1 and 2.

Figure 2-2: Project Overview



Charting Local Waters: San Dieguito Groundwater Study
An OMWD Sustainable Supplies Project

Photo 1: Location of Test Well

Photo 2: Example Test Well during Construction

2.4.2 Long Term Pump Testing

The Project would operate the test well for a period of one year. During the testing period, a groundwater monitoring network would be used to collect data to assess:

1) impacts to water levels and water quality in nearby wells,
2) changes in water levels (piezometric levels) in both upper and lower aquifers, and
3) changes in groundwater storage in the aquifers.

The monitoring network would include the test well, selected existing piezometers, and available local private wells. A Solinst Barologger would be installed in one of monitoring wells on site, which would be used to normalize for atmospheric barometric variation. OMWD would conduct baseline sampling, followed by quarterly sampling for a 12-month period.

2.4.3 Field Testing Manganese Pre-Treatment System

The Project would involve field testing greensand filtration equipment to develop/verify site specific design criteria for manganese treatment. Water quality data for the surrounding area indicates that manganese would be present in the source wells and treatment is needed to protect the reverse osmosis component of the desalter system from scaling which would impair overall system operation. Design criteria to develop/verify would include hydraulic loading rate, head loss buildup and backwash frequency requirements, and oxidant dosing rate. The field test would consist of:

1) preparing the field location for testing, including establishing temporary utilities as needed,
2) mobilization/testing/demobilization of the vendor test equipment, and

3) analysis of test results to develop/verify design criteria.

The manganese field treatment skid, which is a treatment train mounted on a trailer, would be located at the test well. The construction footprint for manganese field test would be 10 ft. by 10 ft. (100 sq. ft.). The operational footprint would be 10 ft. by 10 ft. (100 sq. ft.). The treatment skid would be removed after one week onsite. See photos 3 and 4.

Photo 3: Location of Treatment Skid

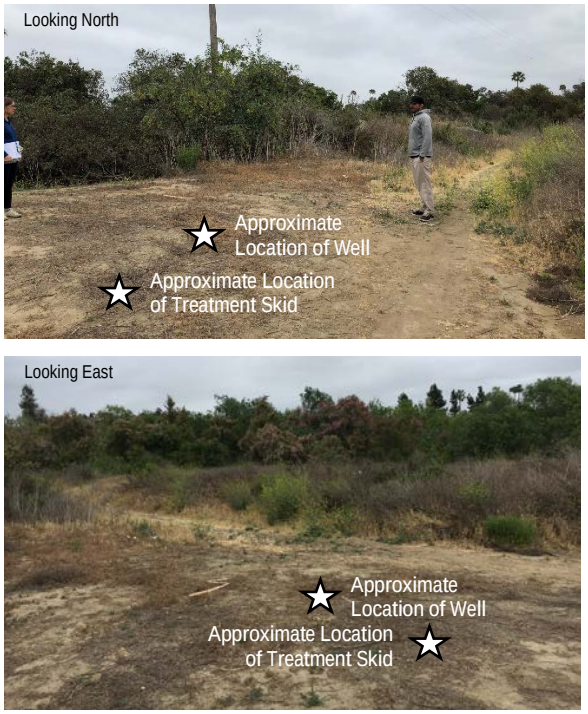


Photo 4: Example Treatment Skid

2.4.4 Discharge of Pump Test Water

The pump test water would be discharged to the onsite Surf Cup irrigation pond whenever there is capacity in the pond. Pump test water would be conveyed to the irrigation pond through an 8-inch 1,200 linear ft pipeline that extends from the test well to the existing outfall discharging well water to the pond. The construction footprint for the conveyance pipeline would be 1,200 ft. by 1 ft. (1,200 sq. ft.) (see Figure 2-3). The test well water would be discharged into the pond via an air gap above the pond water line with float valve. In the event the pond cannot accept additional flows from the test water, the float valve would engage diverting flow to Surf Cup's abandoned 12-inch irrigation pipeline as shown in Figure 2-2 that would discharge to Surf Cup's onsite drainage swale. See photos 5 and 6.

Figure 2-3: Project Detail

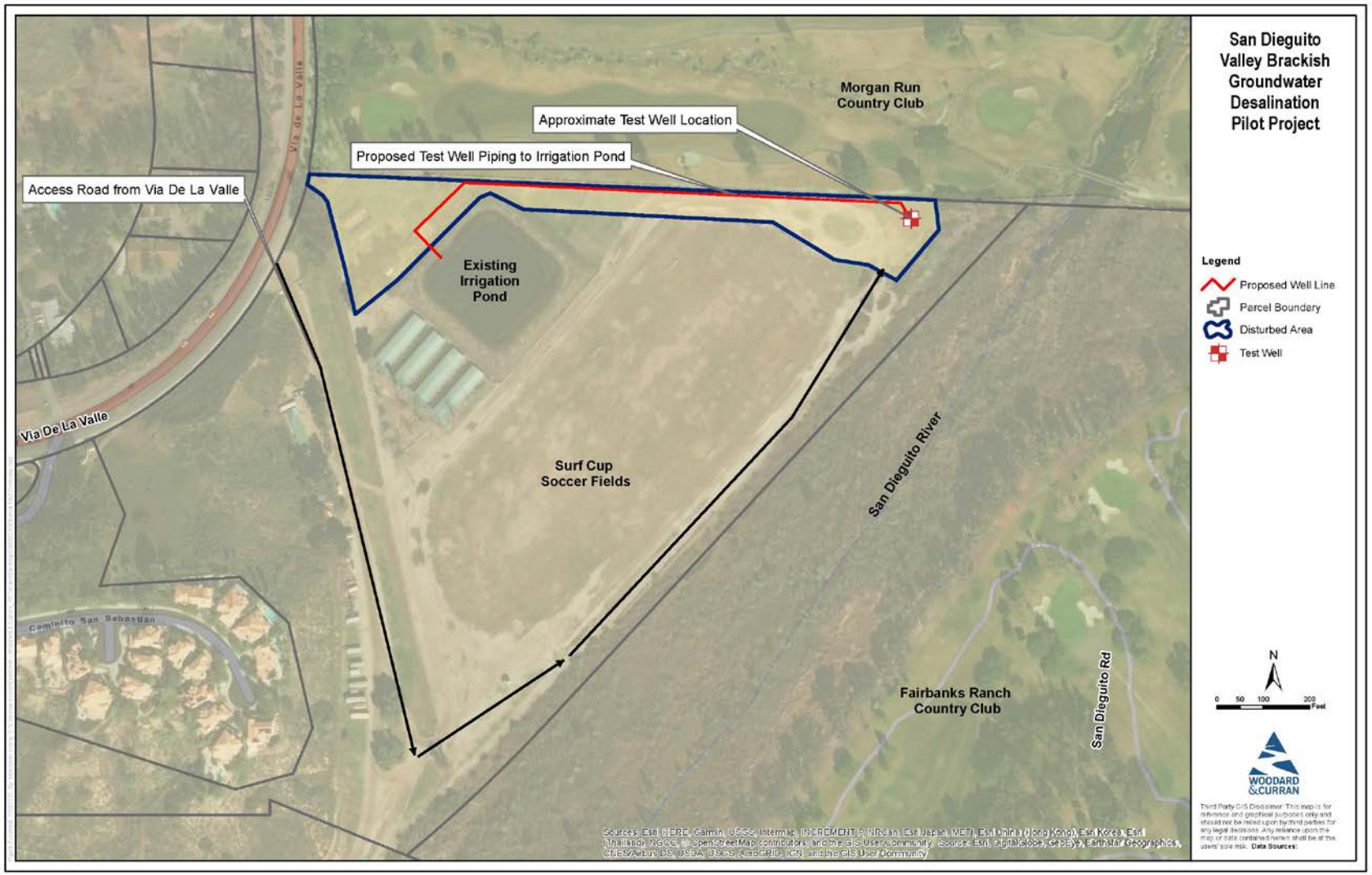


Photo 5: Location of Conveyance to Pond

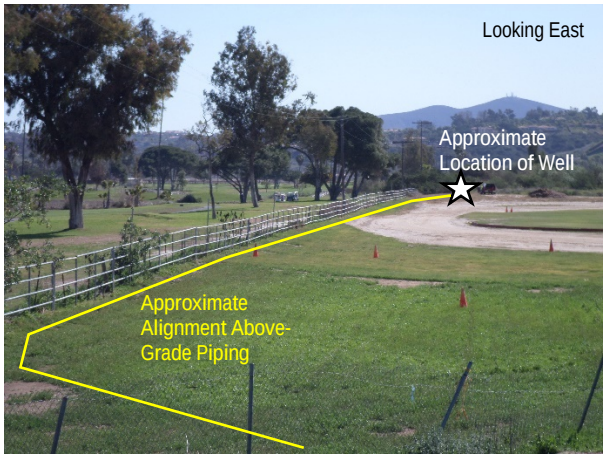


Photo 6: Surf Cup Irrigation Pond

When there is no available capacity in the Surf Cup irrigation pond, pump test water would be discharged to the drainage swale on the western edge of the Surf Cup property. From the irrigation pond, test well water would be conveyed through an abandoned 12-inch irrigation pipeline owned by Surf Cup to the drainage swale. Discharge from irrigation pipeline to the drainage swale would be via an existing blow-off valve with temporary piping to the onsite swale with energy dissipation for erosion control. The discharge structure would have a 15 ft by 10 ft rap area during the pilot test. The 1,400 ft. long by 60 ft. wide drainage swale flows southerly from the pipeline to the San Dieguito River approximately 300 ft. east of the El Camino Real crossing (see Figure 2-2). See photos 7 and 8.

In dry weather months, 100% of the pump test water is expected to be discharged to the pond and used onsite for irrigation. In wet weather months (October -March), up to 61 acre-feet/month for peak month would be discharged to the drainage swale. Overall, approximately 72% of the pump test flows would be used for beneficial irrigation.

Photo 7: Location of Drainage Swale

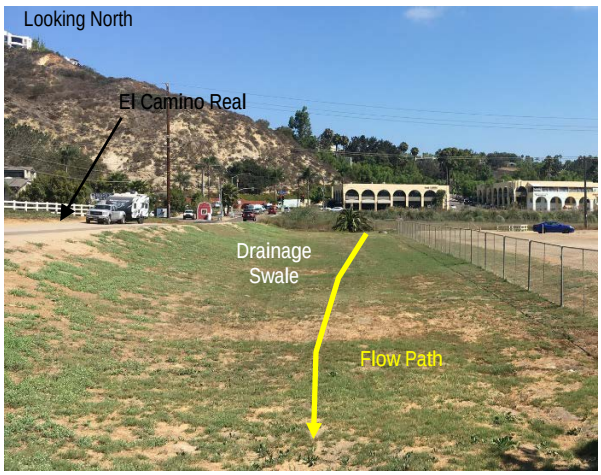
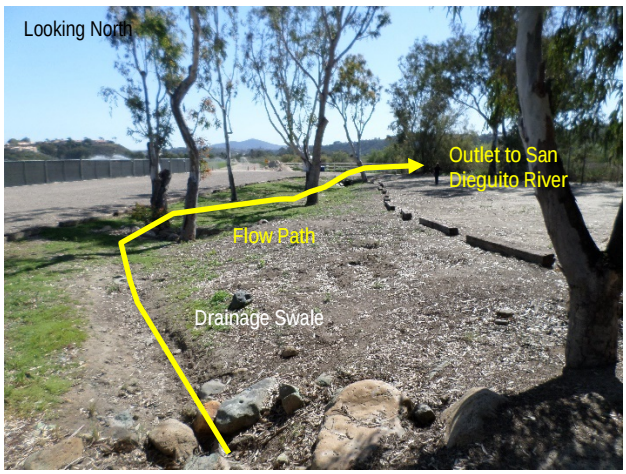


Photo 8: Drainage Swale at San Dieguito River



2.4.5 Local Supply Development

OMWD is reliant on San Diego County Water Authority (SDCWA) as the regional water wholesaler to meet all potable water demands within its service area. Based on OMWD's 2015 Urban Water Management Plan, 91% of OMWD's total water supply is imported and 9% is provided by locally sourced recycled water. 100% of the potable water supply is currently purchased from SDCWA.

SDCWA's major sources of potable water, the State Water Project and the Colorado River, are facing significant challenges that are causing increased costs, decreased availability, and uncertain future reliability. To face these challenges, this project would help to further evaluate treating brackish groundwater to provide a local source of potable water. Reclaiming a brackish groundwater supply would supply 14% of OMWD's water supply locally: 5% from the desalination project and 9% from recycled water (OMWD, 2016a).

For almost 50 years following its founding in 1959, total water demands in the OMWD service area trended upwards as lands developed and population increased. Annual potable demands peaked in fiscal year 2008 at approximately 25,000 AF. After 2008, potable demands declined in response to economic recession, price increases, the use of recycled water, drought restrictions, and increased adoption of water conservation measures. These factors have combined to produce a fundamental downward shift in per capita water use, with usage rates declining by almost 30% from 2007 to 2013. Per capita use reached a minimum during the period from 2010 to 2012 in response to economic recession, cooler than normal summer weather, and other impermanent conditions.

In 2015, OMWD used 11,841 AFY for outdoor uses, including outdoor residential landscaping, and agriculture uses. An estimated 6,644 AFY was used indoor based on 65 gallons per capita per day for a population of 70,522. The proposed brackish groundwater desalination project would produce 1,120 AFY of potable water, which is an estimated 17% of OMWD's indoor potable water supply.

The test well would evaluate the feasibility of desalinating brackish groundwater for entry into OMWD's drinking water system as an additional source of drought-resilient supply.

2.4.6 Drinking Water Regulations

California strictly regulates operation of drinking water systems. In August 2018, OMWD obtained an amendment of coverage under the Statewide National Pollutant Discharge Elimination System (NPDES) Drinking Water System Discharge Permit (Order 2014-0194-DWQ) from the State Water Resources Control Board (SWRCB) for discharges from the test well to the onsite drainage swale.

2.5 Construction Methods

Construction of the Project is expected to begin in late 2018. The Project's maximum area of disturbance during the construction period would encompass no more than 40,000 sq. ft., or about 1.0 acre. All construction activities would occur within the Surf Cup property. Most disturbance activities would occur on existing dirt access roads.

Project construction activity would occur in one phase, with construction lasting approximately one month. Construction would take place between the hours of 7:00 a.m. and 5:00 p.m. Monday through Friday only (not on the weekend) and excluding federal holidays, which is compliant with the City of San Diego's Municipal Code Article 9.5 Noise Abatement and Control, except for the well drilling phase which would occur 24 hours per day over the course of six days (see further details on following page).

2.5.1 Construction

The test well, manganese field test, and conveyance pipelines would be installed on the Surf Cup property. Typical pipeline construction processes are described below:

- Staging Area – A staging area would be required to store well-pipe, construction equipment, and other construction-related material. The staging area would be located on Surf Cup property between the proposed test well and irrigation pond sites.
- Surface Preparation – Surface preparation involves removing structures (such as fences or posts) and/or vegetation from the test well area. Equipment includes front-loader and trucks.
- Pilot Boring and Well Construction – Well construction would utilize a reverse rotary drilling method, which consists of a drill pipe or drill stem couple to a drilling bit that rotates and cuts through the soil. The cuttings produced from the rotation of the drilling bit would be transported to the surface by drilling fluids (water, drilling mud) and air. The water, drilling mud and air move down through the annular area between the drill pipe and the borehole wall, and up through the bottom of the drilling bit. The cuttings then are lifted to the surface within the drill stem. Air is added into the drill stem to lift the water and drilling mud. The drilling fluid provides a hydrostatic pressure that reduces or prevents borehole collapse.

  Drilling of the test well would require six days of drill operation for 24 hours/day, including pilot borehole drilling for one day, isolated aquifer zone testing for two days, borehole enlargement for one day, and well construction for two days. Drilling the borehole and well construction on a 24-hour basis is best drilling practice because borehole instability increases the longer the hole is open. The risk of borehole collapse of a partially constructed well could mean losing the well casing and forcing the contractor to abandon the hole, move over, and start from the beginning. During the six-day timeframe, the drill rig would generate noise levels of approximately 90 dB measured at a distance of 50 feet consistently for 24 hours per day for six days.

  To mitigate the 24-hour drilling operation (see Mitigation Measure NOI-1 in *Section 3.12 Noise*), sound wall barriers would be temporarily installed surrounding the drill derrick on all sides to both absorb the engine noise and deflect noise away from adjacent residences. The sound wall barrier would be 24 feet in nominal height with blanketed wall panels.
- Surface Restoration – After the pump test is completed, the ground surface of the test well area would be restored. If pipe is installed in direct access roads, the dirt would be graded and compacted. In natural or vegetated areas, native plantings would be installed.

2.5.2 Construction Trip Generation

During construction, assuming 24-hour work and two shifts per day, at the busiest the Project would generate trips with construction crews, inspectors, and materials deliveries. Assuming an average crew of seven people, including inspectors, construction could generate up to 10 round-trip trips per day, including one round trip for off hauling of material, three round trips for delivery of materials, and six small vehicle trips for construction worker commuting. Normal days would be less active.

2.5.3 Construction Best Management Practices

Construction best management practices (BMPs) are those practices that OMWD has committed to as part of the Project and thus are incorporated as part of the Project Description:

- Traffic Control - A Traffic Management Plan would be implemented to manage entry and exit of construction equipment to the Surf Cup property. During construction, on-site roads are expected to remain open. Access

along portions of affected roadways may be limited, but would remain open to traffic. If project construction limits traffic to one lane, traffic would be flagged around the work site.

- Utilities – The contractor(s) would contact Underground Services Alert (USA) to identify existing underground utilities and service connections prior to commencing any excavation work.
- Air Quality – OMWD or its contractor(s) would implement standard dust control measures in compliance with San Diego Air Pollution Control District Rule 55. In Addition, OMWD or its contractor(s) would implement the following measures to further reduce impacts:
    - Off-road construction equipment engines would utilize California Air Resources Board/Environmental Protection Agency (CARB/EPA) Certification Tier 2 or better engines, or other equivalent methods approved by CARB, to reduce air emissions.
    - All construction equipment/vehicles would be maintained properly as per the manufacturer's recommendations.
    - Water or dust control agents would be applied to active excavated/disturbed areas, unpaved surfaces, and dirt stockpiles as necessary (at least twice daily) to prevent or suppress particulate matter from becoming airborne. All soil to be stockpiled over four days would be protected with a secure tarp or chemical stabilizers to prevent windblown dust.
    - Groundcover would be replaced in disturbed areas as quickly as possible or adequate BMPs would be implemented to minimize erosion.
    - All trucks hauling dirt, sand, soil, or other loose materials would be covered with a fabric cover and maintain a freeboard height of 12 inches.
- Storm Water – All construction activities would utilize standardized methods as required by the San Diego Regional Water Quality Control Board (RWQCB). Specific BMPs would be determined by the Project contractor and engineer based on site-specific conditions. Such BMPs may include the following:
    - Preservation of existing vegetation within staging/parking areas where feasible.
    - Revegetation or repaving of disturbed areas as soon as feasible after completion of grading.
    - Covering stockpiled excavated and/or fill materials to reduce potential off-site sediment transport.
    - Use of erosion control devices, such as straw wattles, mulch, mats, and/or geotextiles.
    - Use of sediment catchment structures such as hay bales, gravel or sand bags, silt fencing, fiber rolls, matting, berms, or similar devices along grading boundaries and drainage courses to prevent off-site sediment transport.
    - Daily backfill, compaction, and/or covering of excavated trenches to minimize erosion potential.
    - Regular inspection and maintenance of all erosion control and sediment catchment facilities to ensure proper function and effectiveness.
- Noise - The following measures would be implemented during construction to minimize noise impacts to surrounding neighborhoods and habitat:
    - Construction equipment, including vehicles, generators and compressors, would be maintained in proper operating condition and would be equipped with manufacturers' standard noise control devices or better (e.g., mufflers, acoustical lagging, and/or engine enclosures).

- Construction work, including on-site equipment maintenance and repair, would be limited to the hours specified in the City of San Diego noise ordinance.
- Staging areas for construction equipment would be located as far as practicable from residences.

Note that a 24-foot tall sound wall barrier with blanketed wall panels would be installed surrounding the drill derrick on all sides per Mitigation Measure NOI-1 in *Section 3.12 Noise*

- Pump Test Discharge – OMWD would complete weekly sampling at the discharge to verify chlorine levels less than 0.019 mg/L and turbidity less than 100 NTU, with shutdown if water quality exceeds allowable limits per OMWD's Amended Notice of Applicability for the Statewide Drinking Water System Discharge Permit. All flows during well development (startup) would be retained in a tank and de-canted to the irrigation pond and not discharged directly into the drainage swale, due to potential for high turbidity. No chlorine would be added to the pump test water.

2.5.4 Operations and Maintenance Activities

O&M activities related to the Project would involve periodic inspection of the test well to ensure functionality, test well water quality sampling, and water quality sampling for discharge during wet weather events. O&M activities would occur as needed and are anticipated to take place daily during operation for the 12-month period for water quality sampling. Equipment that would be used for O&M activities would include a pickup truck.

2.5.5 Post-Operational

After the groundwater testing is complete, OMWD may elect to pursue a full-scale brackish groundwater desalination facility, which would require design and environmental compliance. If the District elects not to pursue a permanent well installation, the well site and concrete pad could be left in place as a future groundwater monitoring well or the well could be capped. All other equipment, materials, and trash would be removed and the site would be restored as closely as possible to its original condition. Temporary above-grade piping, discharge rip-rap structure, and buried discharge piping would be removed, backfilled, and compacted and the site restored to its original condition. OMWD would repair or replace any landscape features scarred or damaged by equipment or construction operations.

2.6 Existing Facilities

Existing facilities on the Surf Cup site include multiple turf fields used for Sportsand polo, administration/office structures, horse stables, an irrigation storage pond, irrigation piping, mobile sprinkler system, and an 18-inch diameter, 120-feet deep, 200 gpm well.

2.7 Right-of-Way Issues / Permits Required

The Project would require the following permits:

- Amended Notice of Applicability for Statewide Drinking Water System Discharge Permit from SWRCB
- Easement for construction and operation of the Project from City of San Diego
- Principles of Understanding (POU) with Surf Cup
- Noise Permit from City of San Diego

2.8 Summary of Environmental Determination

The IS/MND checklist in *Section 3 Environmental Checklist Form* was prepared to assess the potential effects and significance of those effects of the Project on the environment. Based on the IS, the Project would have less than or no effect on:

- Agriculture and Forestry Resources
- Air Quality
- Geology and Soils
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems

The IS indicates the Project would have potentially significant impacts in the areas of:

- Aesthetics
- Biological Resources
- Cultural Resources
- Hazards/Hazardous Materials
- Noise
- Tribal Cultural Resources

Each of these impacts can be mitigated to reduce the impact to less than significant. If the Project is approved, OMWD would implement the following mitigation measures. Each measure is detailed in the appropriate section of the IS/MND checklist.

Mitigation Measure AES-1: Low Illumination Nighttime Lighting

During nighttime construction, all lighting used shall be of the lowest illumination necessary for Project construction, selectively placed and directed at the immediate work area and away from adjacent sensitive habitats and receptors. Light glare shields shall be used to reduce the extent of illumination into sensitive habitats.

Mitigation Measure BIO-1: Identify Disturbance Limits

OMWD shall direct its construction contractor to clearly identify Project disturbance limits prior to construction activities and restrict them to the minimal size necessary to complete the Project.

Mitigation Measure BIO-2: Avoidance of Impacts to Light-Footed Ridgway's Rail

To avoid take of light-footed Ridgway's rail and potential direct and indirect impacts, OMWD shall complete vegetation clearing/grubbing and construction activities occur outside of the rail breeding season (between September 16 and March 14) if possible. According to th Project's vegetation mapping, the disturbance/staging areas east and west of the river do not contain and are not immediately adjacent to wetland vegetation. Should construction need to occur during the rail breeding season (March 15 to September 15), consultation with the USFWS and focused surveys may be necessary. In addition, rail exclusionary fencing, stacked straw bales, and additional noise abatement measures (i.e. sound walls) may need to be installed in Project areas closest to wetland vegetation to inhibit entry of rails into the construction footprint and to minimize impacts to nesting birds as a result of construction noise and activity.

Mitigation Measure BIO-3: Avoidance of Impacts to Nesting and Migratory Birds

To avoid take of general nesting and migratory birds/raptors and potential direct and indirect impacts, it is recommended that vegetation clearing/grubbing and construction activities occur outside of the general nesting bird/raptor breeding season (between September 16 and January 31). If construction cannot be planned to occur outside of this season (February 1 to September 15), a pre-construction nesting bird survey should be conducted by a qualified biologist. If nesting raptors/birds are found within 500 feet of construction activities, then an appropriately sized no-work buffer zone (in consultation with CDFW/USFWS, as appropriate) should be established around the active nest until a qualified biologist determines the nest is no longer active. Construction will not be able occur within the no-work buffer zone area until the biologist determines that the buffer is no longer necessary (e.g., nest becomes inactive).

Mitigation Measure BIO-4: Pre-Construction Survey for Sensitive Biological Resources

Regardless of time of year, within three days prior to commencement of construction activities (including staging of equipment, clearing and grubbing) a qualified biologist shall perform a pre-construction survey for sensitive biological resources within 500 feet of Proposed Project area and verify disturbance limits have been clearly identified. If a sensitive biological resource is identified during the pre-construction survey with potential for direct or indirect impacts from the Project, biological monitoring may be necessary throughout project duration.

Mitigation Measure BIO-5: Biological Monitor and Training for Contractors

A qualified biological monitor shall be present during initial clearing and grubbing activities. Surface soils in the vegetated excavation areas shall be removed and preserved during construction and replaced when construction is complete. As appropriate, the biologist may relocate animal species offsite to appropriate habitat and in compliance with any applicable Federal, State, and local regulations pertaining to relocation activities.

The qualified biological monitor shall train contractors and construction personnel expected to be in the project impact areas on the biological resources associated within the project and avoidance and minimization measures being implemented as part of the project and document that training is implemented.

Mitigation Measure BIO-6: Preservation of Surface Soils

Surface soils including grubbed vegetation that is not a part of surface soils in in the vegetated excavation areas shall be removed and preserved during construction and replaced when construction is complete. The biological monitor (Mitigation Measure BIO- 5) will verify this is completed

Mitigation Measure BIO-7: Clearance of Debris

The Project site shall be kept as clear of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site. All spoils and materials (including grubbed vegetation) will be disposed of properly.

Mitigation Measure BIO-8: Backfill Trenches or Bore Holes

Trenches or bore holes shall not be left open if they cannot be backfilled that same day. If a trench or bore-hole cannot be backfilled, placement of a wood plank with minimum dimensions of 2-inch-thick by 6-inch-wide should be placed in a manner that an animal can climb out of the hole or trench. If an animal becomes trapped in a hole or trench a qualified biologist should be contacted immediately to relocate the animal.

Mitigation Measure BIO-9: Reduced Speed Limit

The construction-related vehicle speed limit on dirt access roads leading to the Project area shall be less than 15 miles per hour, unless otherwise posted.

Mitigation Measure CUL-1: Unanticipated Discovery of Cultural Resources

In the event that archeological resources are unearthed during project construction, OMWD shall temporarily suspend all earth disturbing work within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify OMWD. OMWD shall consult on a finding of eligibility and implement appropriate treatment measures if the find is determined to be eligible for inclusion in the NRHP or CRHR. Work may not resume within the no-work radius until the OMWD, through consultation as appropriate, determines that the site either: 1) is not eligible for the NRHP or CRHR; or 2) that the treatment measures have been completed to its satisfaction.

Mitigation Measure CUL-2: Unanticipated Discovery of Human Remains

The discovery of human remains is always a possibility during ground-disturbing activities. In the event that human remains are found, OMWD shall temporarily suspend all earth disturbing work within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the San Diego County Coroner (as per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate information center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

Mitigation Measure HAZ-1: Hazardous Materials Management and Spill Prevention and Control Plan

Before construction begins, OMWD shall require its construction contractor to prepare a Hazardous Materials Management Spill Prevention and Control Plan that includes a project-specific contingency plan for hazardous materials and waste operations. The Plan will be applicable to construction activities and will establish policies and procedures according to applicable codes and regulations, including but not limited to the California Building and Fire Codes, and federal and California Occupational Safety and Health Administration (OSHA) regulations. Elements of the Plan will include, but not be limited to the following:

- A discussion of hazardous materials management, including delineation of hazardous material storage areas, access and egress routes, waterways, emergency assembly areas, and temporary hazardous waste storage areas;
- Notification and documentation of procedures; and
- Spill control and countermeasures, including employee spill prevention/response training.

Mitigation Measure HAZ-2: Prevention Measures for Fire Hazards

OMWD shall require that its construction equipment staging areas be cleared of dried vegetation or other material that could ignite. Construction equipment that includes a spark arrestor shall be equipped in good working order. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, such as accidental sparks. Other construction equipment, including those with hot vehicle catalytic converters, shall be kept in good working order and used only within cleared construction zones. OMWD shall require the creation and maintenance of approved fire access to work areas, in accordance with local fire regulations. During construction of the Project, contractors shall require vehicles and crews working at the project site to have access to functional fire extinguishers.

Mitigation Measure NOI-1: Temporary Construction Sound Barrier

Prior to the start of the well construction phase, OMWD or its contractor shall install a sound wall barrier around the site of construction activities. The sound wall barrier shall be constructed to mitigate noise at residential homes 600 feet north of the well site along Avenida Feliz, and 1,500 feet southwest of the well site along Caminito San Sebastian. The sound wall barrier shall be 24 feet in nominal height with blanketed wall panels to mitigate noise levels to less than 75 dBA at the property line of the receptor. Sound levels shall be continuously monitored throughout construction activities to ensure adequate noise reduction. The sound wall barrier shall be constructed along the perimeter of the drill rig with no openings or gaps that would allow noise levels to exceed 75 dBA at the property line of the nearest sensitive receptor. Additional sound panels shall be placed around the drill rig engine to mitigate vertical noise propagation, if necessary to reduce noise levels to less than 75 dBA at the residential property line.

Mitigation Measure NOI-2: Public Noticing and Liaison during Construction

At least one week prior to the start of construction, OMWD will provide notice to residents, property owners, businesses, and schools within 1,500 feet of the proposed well site. Notices would include an anticipated construction schedule and description of anticipated construction activities and their expected duration in addition to any other pertinent information.

During the well drilling phase, OMWD will identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise and other construction disturbance. OMWD will also establish a program for receiving questions or complaints during construction and develop procedures for responding to callers. Procedures for reaching the public liaison officer via telephone or in person will be included in notices distributed to the public in accordance with the information above.

3. ENVIRONMENTAL CHECKLIST FORM

1. Project Title: San Dieguito Valley Groundwater Desalination Design Pilot

2. Lead Agency Name and Address: Olivenhain Municipal Water District
1966 Olivenhain Road
Encinitas, CA 92024

3. Contact Person and Phone Number: Joey Randall, Assistant General Manager
Olivenhain Municipal Water District
1966 Olivenhain Road
Encinitas, CA 92024
(760) 753-6466

4. Project Location: City of San Diego

5. Project Sponsor's Name and Address: Olivenhain Municipal Water District
1966 Olivenhain Road
Encinitas, CA 92024

6. General Plan Designation: The San Dieguito Valley Groundwater Desalination Design Pilot (Project) site is located on City of San Diego lands within the San Dieguito River Valley. The proposed test well site would be located on Surf Cup Sports, LLC property, which is designated Park, Open Space, and Recreation in the City of San Diego General Plan.

7. Zoning: The proposed test well site is located on Surf Cup property, which is designated AR-1-1 (Agricultural Residential, 10-acre lots) in the City of San Diego Zoning Code. The San Dieguito River is designed OF-1-1 (Floodway Zone) by the City of San Diego.

8. Description of Project: The San Dieguito Valley Brackish Groundwater Desalination Design Pilot (Project) would install a test well and conduct a one-year pump test to support Olivenhain Municipal Water District (OMWD) in pursuing brackish groundwater desalination in the San Dieguito Valley Groundwater Basin. The Project would involve installation and operation of a test well, installation and operation of a manganese removal equipment field test, discharge of pump test water to the Surf Cup irrigation pond and, if needed during wet periods, discharge to an onsite drainage swale at the western edge of Surf Cup.

9. Surrounding Land Uses and Setting: The Project is located on City of San Diego lands within the San Dieguito River Valley (see Figure 2-1). Adjacent land uses include the Morgan Run Resort & Club to the north, Rancho Paseana to the east, San Dieguito River and Fairbanks Ranch Country Club to the south, and Surf Cup fields and Via de la Valle to the west (see Figure 2-2). The proposed test well site and discharge pipelines can be accessed from Via de la Valle, along an existing dirt access road on the Surf Cup property. The Project site is depicted on the U.S. Geological Survey (USGS) 7.5-minute series Del Mar Topographic Quadrangle.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.) The following state and local agencies as listed in Table 3-1 below:

Table 3-1: Approvals or Permits Needed for Project

Agency	Level of Participation
State Water Resources Control Board	Drinking Water Permit – amend permit for new discharge point via Notice of Intent
City of San Diego	Easement – for test well
City of San Diego	Noise Permit – for 24-hour well drilling

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 2180.3.1? If so, has consultation began? In June 2015, the San Luis Rey Band of Mission Indians requested formal consultation on OMWD projects under Assembly Bill 52. On August 31, 2018, OMWD mailed out a tribal consultation letter to the San Luis Rey Band notifying them of the Project and inviting tribal consultation. As of September 27, 2018, no response has been received.

Environmental Factors Potentially Affected

The proposed project could potentially affect ("Potentially Significant Impact" or "Less than Significant Impact with Mitigation Incorporated") the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor and present mitigation measures that would reduce all impacts to less than significant.

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

DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial study:

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

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

☐ I find that the proposed project MAY have a significant effect on the environment, and an environmental impact report is required.

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

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

Signature	Date
Joseph Randall	Olivenhain Municipal Water District
Printed Name	For

3.1 Aesthetics

Would the Project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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?	☐	☒	☐	☐

Discussion

The Project is located on the northern border of the City of San Diego and unincorporated County of San Diego within the San Dieguito River Valley. The City and County of San Diego contain varied topography that contribute to a visually diverse landscape. The City of San Diego General Plan does not explicitly identify any scenic resources within the vicinity of the Project. However, the San Dieguito River Valley within the Project area is zoned by the City of San Diego as Open Space, which provides for the preservation of land that has distinctive scenic or natural features that contribute to the community character (City of San Diego, 2008; City of San Diego, 2018).

There are no officially designated State Scenic Highways within the Project area. Interstate 5 is an eligible State Scenic Highway; however, it is located approximately two miles to the west of the Project area. State Route 52 along Mission Trails Regional Park is the closest designated State Scenic Highway and is located approximately 12 miles to the southeast of the Project.

a, b, c) Less Than Significant Impact

There are no designated scenic resources, scenic vistas, or designated State Scenic Highways within the Project area. However, the San Dieguito River Valley, which is adjacent to the Project area, is designated as Open Space, the intent of which is to preserve land that has distinctive scenic or natural features. The Project would involve installation and operation of a test well, installation and operation of a manganese removal equipment field test, and discharge of pump test water to the Surf Cup irrigation pond and/or the drainage at the western edge of the Surf Cup property. All construction activities would occur on the Surf Cup property, primarily on existing dirt access roads. Construction of the test well and discharge structure would involve a 10 ft by 20 ft and 15 ft by 10 ft impact area, respectively. The maximum area of disturbance for Project construction would be no more than 40,000 sq ft including the construction staging area and is anticipated to be complete in one month. Due to the temporary nature of potential construction-related impacts to scenic resources, construction of the Project would not have a substantially adverse effect on a scenic vista, damage scenic resources within a State Scenic Highway, or degrade the existing visual character of the site or its surroundings.

The operational footprint of the test well would be 20 ft by 20 ft with approximately 1,200 ft of temporary above-grade piping to discharge into the Surf Cup's irrigation pond and/or utilization of an abandoned 8-inch buried irrigation pipeline to a new discharge structure at the western drainage. The associated above-ground facilities would be screened in accordance with the City of San Diego's Municipal Code Chapter 14, Article 2, Division 9 regarding regulations for mechanical and utility equipment screening to minimize any potential impacts to the visual character or quality of the site or its surroundings. As such, impacts would be considered less than significant, and no mitigation is required.

d) Less Than Significant with Mitigation

Construction of the Project may create a new source of light and glare from construction equipment parked onsite, but the impact would be temporary (approximately one month). The Project may create a minor new source of glare from the test well and pre-treatment testing equipment, but no permanent lighting would be installed. During equipment repairs, lighting at the test well may be needed temporarily, but that lighting would be truck mounted and short duration. During construction of the test well, temporary lighting would be necessary during the period of nighttime construction. Lights would be placed at edges of the derrick and would be focused inward on the well casing. Potential impacts associated with nighttime lighting and their impact on nearby sensitive receptors (e.g., residents on adjacent properties) would be considered potentially significant. Implementation of Mitigation Measure AES-1 would reduce potential impacts to less than significant.

Mitigation Measures:

Mitigation Measure AES-1: Low Illumination Nighttime Lighting

During nighttime construction, all lighting used shall be of the lowest illumination necessary for Project construction, selectively placed and directed at the immediate work area and away from adjacent sensitive habitats and receptors. Light glare shields shall be used to reduce the extent of illumination into sensitive habitats.

3.2 Agriculture and Forestry Resources

Would the Project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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 Resource Code section 12220 (g)), timberland (as defined by Public Resource 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?	☐	☐	☐	☒

Discussion

The Project area is designated as Urban and Built-Up Land and Other Land by the California Department of Conservation Farmland Mapping and Monitoring Program. There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in the Project area (Department of Conservation, 2018).

The Surf Cup property is designated AR-1-1 (Agricultural Residential, 10-acre lots) in the City of San Diego Zoning Code. Some agricultural uses are permitted in the City of San Diego in areas zoned as Open Space -Flood Plain, Open Space - Residential, Residential Estate, Agricultural – Residential, Agricultural - General, Industrial – Light, Industrial – Heavy, and Industrial – Small Lot. In some of these zones, agricultural activities may require a conditional use permit or other special permission (City of San Diego, 2018).

There is no designated forest land or timberland land within the Project area.

a-e) No Impact

There is no Farmland of Local Importance within the Project area. The Project would be located on land designated by the California Department of Conservation as Urban and Built-Up Land. The Project would be located on the Surf Cup property, which is zoned for agricultural use by the City of San Diego, but is not currently used for agricultural purposes (the site contains Sportsand polo fields). Given that impacts resulting from the Project would be temporary, construction-related impacts, and implementation of the Project would not require rezoning of the Surf Cup property or change the existing use of the property, the Project would not result in a conflict with existing zoning for agricultural use or a Williamson Act contract or result in conversion of farmland to non-agricultural use. Therefore, no impacts would occur.

There is no forest land or timberland within the Project area. Therefore, there would be no conflict with zoning or loss or conversion of forest land or timberland. No impacts to forest land or timberland would occur and no mitigation is required.

Mitigation Measures: None required or recommended.

3.3 Air Quality

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
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?	☐	☐	☒	☐

Discussion

This section addresses air emissions generated by construction and operation of the Project. The primary air pollutants of concern include: ozone (O_3), volatile organic compounds (VOC), oxides of nitrogen (NO_x), carbon monoxide (CO), respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$). This section also addresses the Project's consistency with air quality policies for the San Diego Air Basin (SDAB) and the California State Implementation Plan (SIP). Analysis of project-generated air emissions focuses on whether the Project would cause an exceedance of an ambient air quality standard or significance threshold.

The applicable air quality plans for the Project are the San Diego Regional Air Quality Strategy (RAQS) and applicable portions of the SIP. The RAQS is produced by the San Diego Air Pollution Control District (SDAPCD) and submitted to the State for inclusion in the SIP. The RAQS is revised every three years; the most recent RAQS was published December 2016. Air quality emissions projections and control measures for stationary sources provided in the RAQS and SIP include consideration of many factors such as population projections from local planning documents (e.g., General Plans) and projections from the San Diego Association of Governments (SANDAG).

Existing Climate and Air Quality

The San Diego region's climate is characterized by dry, warm summers and mild, occasionally wet winters. The region experiences an average temperature range from the mid-40s to the high 90s °F. Approximately 90% of the region's precipitation falls from November to April, with an average seasonal precipitation at the coast of approximately 10 inches. Precipitation generally increases towards the mountains and high elevations. In concert with local meteorology, topography influences the dispersal and movement of pollutants in the basin. Topography in the region ranges from

desert and mountains in the east to beaches and coastal areas in the west. Pollutant dispersal can be impeded by the mountains, which help trap them in inversion layers. Prevailing wind patterns are westerly to northwesterly, and inland winds can blow through the valleys during the day and down the hills and valleys at night.

The Project is located in the SDAB, which is under the authority of the SDAPCD. The SDAB covers 4,260 square miles, which comprises the entire San Diego Region and is contiguous with the County boundary. During warmer months, temperature subsidence inversions occur as descending air associated with the Pacific High Pressure Zone encounters air cooled by the ocean, trapping pollutants. A shallow inversion layer can form on cooler nights due to radiation inversion, which can also trap pollutants. Pollutants can become concentrated in the inversion layers allowing for photochemical reactions which produce O_3, or smog. The SDAB is currently classified as a federal marginal nonattainment area for O_3 and a state nonattainment area for particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and O_3 (SDAPCD 2018).

The SDAPCD maintains a network of air quality monitoring stations located throughout the SDAB. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS). The closest to the Project site with the most complete monitoring data is the East Valley Parkway station in Escondido, which measures O_3, $PM_{2.5}$, PM_{10}, NO_2, and CO. Over the period 2013-2015, the federal 8-hour O_3 standard was exceeded five times in 2014 at the Escondido monitoring station; the standard was not exceeded in 2013 or 2015. The Escondido monitoring station recorded exceedances of the federal $PM_{2.5}$ standard during the period from 2013 through 2015; however, the standard is not defined by a single exceedance and the SDAB remains unclassified/attainment for $PM_{2.5}$. There were also exceedances of the state O_3, PM_{10}, and $PM_{2.5}$ standards during the period from 2013 to 2015. The data from the monitoring station indicate that air quality is in attainment for all other NAAQS and CAAQS.

Air Quality Standards

The relevant air quality standards are the County of San Diego air quality screening level thresholds (County of San Diego 2007), which are part of its *Guidelines for Determining Significance and Report Format and Content Requirements – Air Quality*. The thresholds for criteria pollutants are presented in Table 3-1.

Table 3-1: SDAPCD Air Quality Screening-Level Thresholds

Pollutant	Emissions Rate (pounds/day)
Volatile Organic Compounds (VOC)	75
Oxides of Nitrogen (NO_x)	250
Fine Particulate Matter ($PM_{2.5}$)	55
Respirable Particulate Matter (PM_{10})	100
Carbon Monoxide (CO)	550
Oxides of Sulfur (SO_x)	250

Sources: County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements – Air Quality (2007); SDAPCD Regulation II Rule 20.2 New Source Review Non-Major Stationary Sources.

The criteria levels listed in Table 3-1 are thresholds to evaluate the increased emissions that would be discharged to the SDAB if the Project were to be approved. Emissions below the screening level thresholds would not cause a significant impact on air quality. If emissions exceed these thresholds, modeling would be required to demonstrate that the Project's total air quality impacts would not exceed the NAAQS and CAAQS, including background levels. For nonattainment pollutants (O_3, with ozone precursors NO_x and VOCs, and PM_{10}), if emissions exceed the thresholds

shown in Table 3-1, the Project could have the potential to result in a cumulatively considerable net increase in these pollutants, and thus could have a significant impact on the ambient air quality.

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal governments as toxic air contaminants (TACs). In San Diego County, SDAPCD Regulation XII Rule 1210 governs TAC emissions. It contains requirements for notifications of emissions and risk reduction audits and plans for stationary source toxic air contaminants. Under Rule 1210, emissions of TACs that result in a cancer risk of 10 in 1 million or less and a health hazard index of one or less would not be required to notify the public of potential health risks. If a project has the potential to result in emissions of any TAC which results in a cancer risk of greater than 10 in 1 million, it would have a potentially significant impact.

The General Conformity Rule ensures that the actions taken by federal agencies in nonattainment and maintenance areas do not interfere with a State's plans to meet national standards for air quality. 40 C.F.R. 93 § 153 defines de minimis levels, that is, the minimum threshold for which a conformity determination must be performed, for various criteria pollutants in various areas. Based on the Federal attainment status for the SDAB, the applicable de minimis levels are shown in Table 3-2.

Table 3-2: General Conformity De Minimis Levels for the San Diego Air Basin

Pollutant	Emissions Rate (tons/year)
Volatile Organic Compounds (VOC)	100
Oxides of Nitrogen (NO_x)	100
Fine Particulate Matter ($PM_{2.5}$)	100
Respirable Particulate Matter (PM_{10})	100
Carbon Monoxide (CO)	100
Oxides of Sulfur (SO_x)	100
Lead	25

Source: 40 CFR 93.153 - Applicability.

Finally, there are not specific significance criteria under NEPA for air quality; however, NEPA regulations provide guidance for significance analysis, described in 40 C.F.R. § 1508.27.

a) Less Than Significant Impact

In general, projects that do not increase growth beyond that included in existing General Plans, which are used to develop air emission budgets for the purpose of air quality planning and attainment demonstrations, would be consistent with the SDAB's air quality plans, including the RAQS and SIP. The Project is not anticipated to directly induce growth. The Project would increase understanding of the availability of local groundwater supplies, which could offset future demand for imported (potable) water supplies. The Project would not impact the demands that are anticipated under existing General Plan population projections and, therefore, are incorporated into the RAQS and SIP. Given that anticipated air quality emissions associated with the Project are accounted for in the RAQS and SIP, the Project would not obstruct implementation of the applicable plans. Impacts would be less than significant, and no mitigation would be required.

b) Less Than Significant Impact

The Project would involve both construction and operational air emissions impacts. The Project would implement a groundwater test well, manganese field test, and groundwater discharge conveyance pipelines. Construction is

expected to last approximately one month. Construction impacts would include emissions associated with staging and site preparation; pilot boring and well construction; discharge structure construction; and surface restoration. Installation of the discharge pipelines is not anticipated to involve trenching or excavating, except for the pipeline connection to the new discharge structure. Operational emissions would result from activities such as periodic inspection of the test well, test well water quality sampling, and water quality sampling for discharge during wet weather events. O&M activities are anticipated to take place daily during the 12-month operational period of the Project and would involve the use of one light-duty pickup truck to access the inspection points. A pre-treatment test would occur over one week in August 2019. Operation of the groundwater well would involve the use of a pump which is expected to consume 115,900 kWh/year, resulting in indirect air pollution emissions from energy consumption. Further details can be found in *Chapter 2, Project Description*.

Modeling of air emissions from construction was completed in the California Emissions Estimator Model (CalEEMod) version 2016.3.2 for construction of the test well and discharge structure. Appendix A contains the CalEEMod outputs for this Project.

Analysis Methodology

Criteria pollutants were estimated from construction of the Project using the CalEEMod version 2016.3.2. Details on construction, including timing, duration, equipment, and worker trips, can be found in *Chapter 2, Project Description*. Other Project details necessary for air emissions modeling were obtained from the model (e.g., equipment horsepower, load factors, fleet mix, and vehicle emission factors). Operational emissions would be minimal (approximately one daily pick-up truck trip over the course of 12 months, operation of the pump, and conducting the week-long pre-treatment test) and activities would be incorporated into existing OMWD and Surf Cup O&M routines as much as possible. As such, operational emissions have not been quantified and are anticipated to result in a less than significant air quality impact.

Construction

Table 3-3 summarizes the potential air quality impacts from construction of the Project. Calculated emissions are presented in terms of the maximum daily emissions that may occur on any given day during the construction period. Construction would occur from January to February 2019. It was assumed that standard dust control measures would be implemented during construction. There are three discrete construction phases, which would not overlap: staging/surface preparation; pilot boring, well construction, and discharge structure construction, and surface restoration. Calculated estimates are compared to SDAPCD's maximum daily thresholds for construction activities for VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$. Maximum construction emissions would take place during the boring, well, and discharge structure construction phase and are associated with on-site off-road equipment.

Table 3-3: Expected Construction Emissions (pounds per day)

Construction Phase	VOC	NOx	CO	PM_{10}	$PM_{2.5}$
Staging and Surface Preparation	1.4	14.1	10.9	0.8	0.7
Construction	2.8	31.7	22.3	1.5	1.3
Surface Restoration	1.3	13.8	10.8	0.8	0.7
Maximum Daily Emissions	2.8	31.7	22.3	1.5	1.3
SDAPCD Thresholds	*75*	*250*	*550*	*100*	*55*
Significant?	No	No	No	No	No

Note: Emissions of SO_x would be minimal (see CalEEMod output sheets in Appendix A) and are not presented in this table.

Potential air quality emissions were also evaluated with respect to federal General Conformity Rule Thresholds. The General Conformity Rule requires analysis based on conformance with an applicable SIP, NEPA, and the federal Clean Air Act. Table 3-4 provides an overview of emissions associated with the Project as they relate to compliance with the General Conformity Rule. As shown in Table 3-4, Project emissions would not exceed General Conformity significance thresholds.

Table 3-4: Expected Construction Emissions (tons per year)

Construction Phase	VOC	NOx	CO	PM_{10}	$PM_{2.5}$
Maximum Construction Emissions	0.03	0.4	0.3	0.02	0.02
Federal General Conformity Rule Thresholds	*100*	*100*	*100*	*100*	*100*
Significant?	No	No	No	No	No

Note: Emissions of So_x would be far below the significance thresholds (see CalEEMod output sheets in Appendix A) and are therefore not summarized in this table.

The Project would not exceed the applicable air emissions standards during construction. Construction would be short-term and temporary. Therefore, emissions associated with construction would result in a less than significant impact on the ambient air quality.

c) Less Than Significant Impact

A project could result in a cumulatively significant impact if it would generate emissions that constitute a cumulatively considerable net increase of PM_{10} or exceed quantitative thresholds for O_3 precursors, NO_x and VOCs. The Project site is in an area that is largely developed, and emissions from existing projects are part of the ambient air quality levels.

There are two cumulative projects being implemented by OMWD within one mile of the Project site:

- 153A Recycled Water Pipeline Extension, and
- Temporary 153A Recycled Water Extension (until above project is completed)

These projects are anticipated to be constructed simultaneously with the Project; however, the impacts associated with the Project are well below the significance thresholds. Because the Project's emissions are significantly below the daily emissions thresholds established by SDAPCD, the combined emissions during construction and operations are not expected to result in a cumulatively considerable impact on air quality.

d) Less Than Significant Impact

Sensitive receptors are typically defined as schools (preschool – 12th grade), hospitals, resident care facilities, day care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. The *City of San Diego CEQA Significance Determination Thresholds* (City of San Diego 2016) also include athletic facilities and residences, which may house medical patients in homes, as potential sensitive receptors. Any project which has the potential to directly impact a sensitive receptor located within one mile and result in a health risk greater than 10 in 1 million would have a potentially significant impact. The land use within the Project vicinity is largely comprised of residential development and athletic facilities (e.g., country clubs, ranches, and the Surf Cup Sportsfields). No schools, hospitals, resident care facilities, or day care centers have been identified within one mile of the Project site.

The Project would construct facilities that would be similar to existing facilities, which are not substantial sources of TAC emissions. Furthermore, there are no groundwater wells listed on the *2016 Air Toxics "Hot Spots" Program Report for San Diego County* (SDAPCD 2018). For these reasons, the Project is not anticipated to result in a new, significant source of TACs.

As discussed under Impact b above, the Project would not result in a substantial net increase in vehicle trips. Operational activities are expected to include one daily trip, on average. Therefore, the Project would not contribute to severe traffic congestion issues with the potential to create carbon monoxide "hotspots," defined as areas where high concentrations of carbon monoxide result from idling vehicles.

Construction of the Project would not result in substantial pollutant concentrations, including diesel exhaust from construction equipment. Emissions of PM_{10} and $PM_{2.5}$, including particulate matter from diesel exhaust, would be below screening thresholds (see CalEEMod output sheets in Appendix A). In addition, standard air pollution construction BMPs (see *Chapter 2, Project Description*) to control dust and maintain construction equipment would further reduce emissions. Therefore, although residential and recreational receptors exist in the vicinity of the Project, construction and operation would not expose these receptors to substantial pollutant concentrations. Impacts would be less than significant.

e) Less Than Significant Impact

SDAPCD Rule 51 prohibits discharge of air contaminants which cause nuisance or annoyance to any considerable number of people, or which endanger the comfort, repose, health or safety of a considerable number of people. A project that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of offsite receptors. Typical sources of odor complaints include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. Under the right meteorological conditions, some odors may still be offensive several miles from the source (CARB 2005).

Implementation of the Project would have the potential to generate objectionable odors through construction activities and during operation of certain components. Construction activities are not typical sources of nuisance odors, although construction could result in minor amounts of odors associated with diesel exhaust. These smells are largely due to the presence of sulfur and creation of hydrocarbons during combustion. As shown in Appendix A, construction would not result in significant emission of sulfur oxides. Additionally, construction would be temporary, and equipment would not be in a single location throughout the construction period. Odorous hydrocarbons tend to dissipate quickly and would only affect receptors in the immediate vicinity, rather than a substantial number of people at any given time. Therefore, construction activities would not result in nuisance odors.

Operations of the Project are not expected to result in odor impacts. Once installed, the well and conveyance pipelines would be underground. Potential impacts related to objectionable odors would be less than significant and no mitigation would be necessary.

Mitigation Measures: None required or recommended.

3.4 Biological Resources

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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, and 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?	☐	☐	☒	☐

Discussion

A Biological Resources Assessment was prepared in September 2018 by ECORP Consulting, Inc. for the Project. A field survey of the Project area and associated biological resources was conducted by ECORP biologists on August 14, 2018. The complete Biological Resources Assessment is provided in Appendix B.

Biological conditions in the Project area were evaluated by confirming applicable biological regulations, policies, and standards; reviewing biological literature pertinent to the site and vicinity; and conducting a reconnaissance-level biological survey of the site. ECORP conducted a literature review of the latest versions of the California Natural Diversity Data Base (CNDDB; CDFW 2018a), and California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Plants (CNPS 2018) within five miles of the property, as well as a review of the U. S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey (USDA 2018), U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal and Information for Planning and Consultation (IPaC) Trust Resources List (USFWS 2018a), and USFWS National Wetland Inventory (USFWS 2018b).

The Project site, as well as a 500-foot buffer around the Project site (hereafter referred to as "survey area"), was surveyed on foot by biologists familiar with the biological resources located in the regional vicinity of the property. Project areas were surveyed to provide for 100% visual coverage. ECORP biologists further examined the biological resources present in the survey area to determine the potential presence for special-status biological resources. Vegetation mapping was conducted using aerial imagery and ground-truthed during field surveys in accordance with City of San Diego Land Development Code Biology Guidelines (City of San Diego 2012).

The Project is within the City of San Diego's Multiple Species Conservation Program (MSCP) Planning Area (City of San Diego 1996). The MSCP is a conservation program designed to facilitate the implementation of a regional habitat preserve by coordinating project impacts and mitigation while allowing the issuance of "take" permits for special-status upland species at the local level. This habitat preserve is known as the Multi-Habitat Planning Area (MHPA) and lands within it have been designated for conservation. Various jurisdictions, including the City of San Diego, have developed MSCP Subarea plans to establish guidelines for the implementation of their respective preserve areas which are included in the regional MHPA. The Project site is located outside of the City's MHPA.

MSCP "covered species" are those that are considered adequately protected within the City of San Diego, provided that they are conserved according to the conditions of coverage provided in the City's MSCP Subarea Plan. In addition to general guidelines and directives provided in the City's MSCP Subarea Plan, development in the City of San Diego is subject to restrictions discussed in the City of San Diego Land Development Code Biology Guidelines (City of San Diego 2012).

Habitats/Vegetation Communities

The land cover in the Project area primarily consists of urban and developed land, including Project areas that will be used for access, staging, and installation of the pipeline. Developed areas do not constitute a vegetation classification, but rather a land cover type. Areas mapped as developed are largely devoid of vegetation and include hard-packed dirt paths, structures, existing water meters, and dump sites were mapped as developed. However, some native vegetation and riparian areas occur adjacent to Project impacts areas.

Coastal salt marshes are intertidal features that occur as fringes bordering upland areas. This vegetation type occurs in the drainage swale on the western end of Surf Cup, likely due to the inundation of brackish water from the nearby San Dieguito River during overflow conditions. It is considered disturbed because it is mowed and dominated by primarily non-native grasses and herbs. This community contains plants that are tolerant of saline conditions, such as perennial pickleweed (*Salicornia sp*.) and estuary seablite (*Suaeda esteroa*).

Coastal and valley freshwater marsh, which is characterized by perennial hydrophytic plants such as bulrush (*Scirpus* spp.) and cattail (*Typha* spp.), occurs in a small swath north of the pedestrian bridge on the Morgan Run property. Disturbed coastal and valley freshwater marsh habitat occurs south and east of the pedestrian bridge on the Morgan Run property, which is differentiated from the other freshwater marsh habitat observed in the survey area by the abundance of non-native species such as tamarisk (*Tamarix ramosissima*) and arundo (*Arundo donax*).

Southern riparian scrub is a riparian habitat typically dominated by a variety of riparian plant species including mule fat (*Baccharis salicifolia*) and various species of willows (*Salix* spp.), but also containing more mature woodland species. This vegetation community, which occurs adjacent to coastal and valley freshwater marsh associated with San Dieguito River, consists predominantly of mule fat, willows, and an abundance of tamarisk in the tree layer.

Disturbed wetland areas, which occur near the existing channel, are characterized by wetland species that tolerate disturbance and are dominated by non-native species. The disturbed wetland areas that occur in the survey area are mostly dominated by cattail (*Typha domingensis*) and tamarisk.

Diegan coastal sage scrub comprises low-growing, aromatic, drought-deciduous, soft-woody shrubs and is typically found on sites with steep, dry slopes or on clay-rich soils that are slow to release stored water. This vegetation community occurs approximately 500 ft north of the southwest access road, across Villa de la Valle. Dominant species included California encelia (*Encelia californica*), coastal sagebrush (*Artemisia californica*), and jimson weed (*Datura wrightii*). This vegetation community has the potential to host special-status-species such as the Coastal California gnatcatcher. Disturbed Diegan coastal sage scrub occurs west of the southwest access road.

Other land cover types in the survey area include Urban/Developed, Ornamental Vegetation, and Disturbed.

Wildlife

The flora and fauna observed during the field reconnaissance survey included those that are typical of the aforementioned vegetation communities. Wildlife observed during the site survey include common raven (*Corvus corax*), northern mockingbird (*Mimus polyglottos*), house finch (*Haemorhous mexicanus*), California ground squirrel (*Otospermophilus beecheyi*), and red-tailed hawk (*Buteo jamaicensis*). Although none were observed, amphibian and reptile species expected to occur are those that can thrive amid disturbance, such as the western fence lizard (*Sceloporus occidentalis*) and pacific treefrog (*Psuedacris regilla*).

There were no signs of large mammal species observed in the Project area during the surveys, but the survey area is within the San Diego County range of native medium and large mammals, including bobcat (*Lynx rufus*), mountain lion (*Felis concolor*), mule deer (*Odocoileus hemionus),* and coyote (*Canis latrans*). Disturbances due to agriculture, developed areas, and ongoing human activity likely limit the use of the survey area by the deer and mountain lion, but use by both bobcat and coyote, along with many smaller mammal species, could occur due to the water sources present and natural stream corridors, specifically the San Dieguito River. If these species were to use the site, they would be expected to pass through temporarily.

Special-Status Plants

One special-status plant, Estuary seablight (*Suaeda esteroa*), was detected in the grassy swale adjacent to the Project area during the survey. Approximately 30 specimens were observed in a 40 ft by 10 ft area located outside of the

proposed impact area. The Project area is developed or disturbed and consists of existing disturbances, limited habitat areas, development, and abundant non-native species. The impact areas are not conducive to supporting special-status species as they consist of unvegetated areas and areas partially vegetated by disturbed vegetation, consisting of non-native herbs and grasses with sparse cover of shrubs and trees.

A literature search using the CNDDB and CNPS's Electronic Inventory was conducted to determine the special-status species that have been documented within a five-mile radius of the Project. The special-status plant species reported in these databases for the area were then assessed for their potential to occur in the Proposed Project area. A thorough pedestrian survey of the Proposed Project area was performed by qualified ECORP biologists on August 14, 2018. One special-status plant species, Southern tarplant (*Centromadia parryi ssp. australis*), was determined to have a moderate potential to occur and four special-status plant species, San Diego sagewort (*Artemisia palmeri*), Smooth tarplant (*Centromadia pungens* ssp. *laevis*), Coulter's goldfields (*Lasthenia glabrata* ssp*. coulteri*), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*), were determined to have low potential to occur in the Project area. The remaining 73 plant species evaluated are presumed absent from the Project area due to the lack of suitable habitat and/or other conditions such as soil or elevation.

Special Status Wildlife

A literature search using CDFW's CNDDB and USFWS's IPAC was conducted to determine the special-status wildlife species that have been documented within a five-mile radius of the Project site. Twenty-six special-status wildlife species had been previously recorded within five miles of the Project area, one of which had been documented within the survey area: light-footed Ridgway's rail (*Rallus obsoletus levipes*). The light-footed Ridgway's rail is a federally endangered species, a State Fully Protected species, and a species covered by the City MSCP. This species is assumed present in the survey area, however, determined to be unlikely to occur in the Project area. Their preferred habitat includes freshwater and saltwater marshes that occur along river corridors. Suitable nesting and foraging habitat for this species does not occur within or immediately adjacent to the Project disturbance areas, however due to the proximity of previous records, measures are recommended to reduce potential impacts to this species.

An additional six species were evaluated because habitat conditions associated with those species are affiliated with the survey area or general project vicinity. One special-status wildlife species, the San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), was determined to have a high potential to occur. The Orange-throated whiptail (*Aspidoscelis hyperythra*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), and California black rail (*Laterallus jamaicensis coturniculus*) were determined to have a moderate potential to occur. Twelve species, California glossy snake (*Arizona elegans occidentalis*), Coast horned lizard (*Phrynosoma blainvillii*), Coronado skink (*Plestiodon skiltonianus interparietalis*), Red-diamond rattlesnake (*Crotalus ruber*), Least Bell's vireo (*Vireo bellii pusillus*), Burrowing owl (*Athene cunicularia*), White-tailed kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actia*), Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), San Diego desert woodrat (*Neotoma lepida intermedia*), and Dulzura pocket mouse (*Chaetodipus californicus femoralis*), were determined to have a low potential to occur in the survey area. The remaining 15 wildlife species evaluated are presumed absent from the survey area due to the lack of suitable habitat.

The survey area contains habitat for migratory bird species and potential for raptor foraging and nesting. No long-standing nests were observed within the survey area during the reconnaissance survey; however, non-native palm, eucalyptus, and other tree species provide suitable habitat for raptor nesting while the adjacent fallow/agricultural land is suitable for foraging. Due to the lack of a dense shrub layer and sparsely distributed riparian vegetation, there is insufficient habitat for riparian species such as least Bell's vireo or southwestern willow flycatcher (*Empidonax extimus traillii*).

Jurisdictional Resources

The Project site is outside of the City of San Diego's coastal overlay zone, and avoids Environmentally Sensitive Lands including wetlands. The San Dieguito River and associated wetland areas are within the Project area, and these features are regulated by the City as a wetland and regulated by the U.S. Army Corps of Engineers (USACE), CDFW, and Regional Water Quality Control Board (RWQCB). Impacts to wetlands and waterways are not anticipated as a part of the Project.

Wildlife Corridors, Linkages, and Preserves

The natural movement corridors within the property occur along the San Dieguito River. Rivers and streams and associated habitats serve as natural corridors for wildlife due to their abundant cover, the source of seasonal water, and the directional path that they represent for navigation. Land uses within the Project area and on surrounding properties are disturbed and developed, and offer constraints to wildlife movement, but movement corridors exist in the survey area primarily through the riparian habitats and open, unfenced fields. The design would retain the existing contiguity with the surrounding landscape and wildlife movement would most likely be unchanged as a result of the Project.

a) Less than Significant Impact with Mitigation

A project-level Biological Resources Assessment (Appendix B) was prepared to identify potential impacts to special-status species that would result from the Project. Although the Project area contains wetland, riparian, and coastal sage scrub vegetation, which are conducive to supporting special-status plants and wildlife, the Project disturbance areas are Urban/Developed and Disturbed, and only one special-status species was observed during the survey. The disturbance areas would be cleared of herbaceous vegetation and used as construction equipment staging areas. The Project disturbance areas are unvegetated and currently used for overflow parking for the Surf Cup Sportsfields. The amount of each vegetation type impacted by the Project is included in Table 3-5.

Surf Cup's dirt access road would be used to transport workers and equipment such as loaders and trucks. The road is currently used by maintenance workers and no new impacts are anticipated as a result of the use of this road.

Table 3-5: Vegetation Communities Impacted by Project

Vegetation Community (Holland Code)	Proposed Temporary Impact / Permanent Impact (acres)
Disturbed Southern Coastal Salt Marsh (52120)	0.0 / 0.0
Coastal and valley freshwater marsh (52410)	0.0 / 0.0
Disturbed coastal and valley freshwater marsh (52410)	0.0 / 0.0
Southern riparian scrub (63300)	0.0 / 0.0
Disturbed wetland (11200)	0.0 / 0.0
Diegan coastal sage scrub (32500)	0.0 / 0.0
Disturbed Diegan coastal sage scrub (32500)	0.0 / 0.0
Urban/Developed (12000)	3.08 / 0.0
Extensive Agriculture – Field/Pasture, Row Crops (18300)	0.0 / 0.0
Ornamental Vegetation (11000)	0.0 / 0.0
Disturbed (11300)	0.883 / 0.0

The vegetation/habitat communities in the Project areas are not considered to be sensitive by the City, or by state or federal agencies, therefore impacts will not be significant

One special-status plant, Estuary seablite (*Suaeda esteroa),* was detected within the drainage swale, adjacent to the Project area. Approximately 30 specimens were observed in a 40 ft by 10 ft area located outside of the proposed impact area. While direct and indirect impacts to these plants are not anticipated as a result of the Proposed Project, Mitigation Measures are recommended to reduce potential impacts. Additionally, one special-status plant species was determined to have a moderate potential to occur and four were determined to have low potential to occur in the Project area. Southern tarplant (*Centromadia parryi* ssp. *australis*) has a moderate potential to occur in the Project area. A record for this species exists within CNDDB, in an area overlapping the Project alignment but outside of proposed impact areas. The blooming period of this species is between May and November, so the species would have been observed during the reconnaissance survey, if present. Although the southern tarplant was not observed during the August site survey and typical habitat for this species does not occur within the proposed disturbance areas, due to the proximity of previous records, the Project would have the potential to impact to special-status plant species.

No special-status wildlife species were observed or detected during the reconnaissance survey. Special-status wildlife were evaluated for their potential to occur within the survey area, a broader area which includes the Project area and buffer, where direct or indirect impacts could occur. Twenty-five special-status wildlife species had been previously recorded within five miles of the Project area. The light-footed Ridgway's rail (*Rallus obsoletus levipes*) is assumed present in the survey area; however, it was determined to be unlikely to occur in the Project area because suitable nesting and foraging habitat for this species does not occur within or immediately adjacent to the Project impact areas. Although not anticipated to occur in the Project area, the Project would have the potential to impact the light-footed Ridgway's rail, a special-status wildlife species.

The proposed disturbance areas are previously disturbed and dominated by bare ground and are not highly associated with any of the species evaluated. The access road to be used for the Project is frequently used by vehicles, Surf Cup users, and landscaping and maintenance equipment; therefore, the transportation of workers and construction equipment on this access road is not anticipated to directly or indirectly impact birds or wildlife during ingress and egress. Due to the close proximity of suitable habitat, it is possible that construction activities could influence activity for these species.

Mitigation Measures BIO-1 through BIO-9 would be implemented to reduce potential impacts to special-status plant and wildlife species to less than significant levels. Additionally, Mitigation Measure AES-1 requiring low illumination nighttime lighting would also help reduce impacts to adjacent sensitive habitats.

b) Less than Significant Impact with Mitigation

The land cover in the Project area, including areas that will be used for access, staging, and installation of the pipeline, primarily consists of Urban/Developed and Disturbed land and are largely devoid of vegetation. However, some native vegetation and riparian areas occur in the Project area adjacent to Project impacts areas.

Coastal salt marsh occurs in the drainage swale on the western end of Surf Cup, likely due to the inundation of brackish water from the nearby San Dieguito River during overflow conditions. A small swath of coastal and valley freshwater marsh habitat occurs north of the pedestrian bridge on the Morgan Run property. Disturbed coastal and valley freshwater marsh habitat occurs south and east of the pedestrian bridge on the Morgan Run property. Southern riparian scrub occurs adjacent to coastal and valley freshwater marsh associated with San Dieguito River and consists predominantly of mule fat, willows, and an abundance of tamarisk in the tree layer. Disturbed wetland areas occur near the existing channel and are primarily dominated by cattail (*Typha domingensis*) and tamarisk. Diegan coastal sage scrub occurs approximately 500 ft north of the southwest access road, across Villa de la Valle. Disturbed Diegan coastal sage scrub occurs west of the southwest access road.

Although riparian habitat and other sensitive natural communities occur in the Project area, they occur outside of the Project impact areas. Additionally, Mitigation Measures BIO-1 and BIO-4 would reduce any potential impacts to riparian habitat or other sensitive natural communities to less than significant levels.

c) Less than Significant Impact

The San Dieguito River and associated wetland areas are within the Project footprint, and these features are regulated by the City as a wetland and regulated by the USACE, CDFW, and RWQCB. However, all proposed construction will occur outside of jurisdictional areas and impacts to wetlands and waterways are not anticipated as a part of the Project.

d) Less than Significant Impact

The natural movement corridors within the Project area occur along the San Dieguito River. Land uses within the Project area and on surrounding properties are disturbed and developed, and offer constraints to wildlife movement, but movement corridors exist in the survey area primarily through the riparian habitats and open, unfenced fields. The design of the Project would retain the existing contiguity with the surrounding landscape and wildlife movement would not change significantly as a result of the Project. Therefore, impacts would be less than significant.

e, f) Less than Significant Impact

The Project would be implemented in accordance with all applicable policies and ordinances. The Project would not require the removal of trees, as the Project impact areas consist of Urban/Developed and Disturbed land and are largely devoid of vegetation. Disturbed vegetation is not considered to be sensitive by the City, or by state or federal agencies.

The Project is within the City of San Diego's MSCP Subarea Plan; however, it is located outside of the City's MHPA. In addition to general guidelines and directives provided in the City's MSCP Subarea Plan, development in the City of San Diego is subject to restrictions discussed in the City of San Diego Land Development Code Biology Guidelines (City of San Diego 2012). The Project would not conflict with the Land Development Code Biology Guidelines. Therefore, impacts would be less than significant.

Mitigation Measures: See AES-1 in *Section 3.1 Aesthetics*.

Mitigation Measure BIO-1: Identify Disturbance Limits

OMWD shall direct its construction contractor to clearly identify Project disturbance limits prior to construction activities and restrict them to the minimal size necessary to complete the Project.

Mitigation Measure BIO-2: Avoidance of Impacts to Light-Footed Ridgway's Rail

To avoid take of light-footed Ridgway's rail and potential direct and indirect impacts, OMWD shall complete vegetation clearing/grubbing and construction activities occur outside of the rail breeding season (between September 16 and March 14) if possible. According to th Project's vegetation mapping, the disturbance/staging areas east and west of the river do not contain and are not immediately adjacent to wetland vegetation. Should construction need to occur during the rail breeding season (March 15 to September 15), consultation with the USFWS and focused surveys may be necessary. In addition, rail exclusionary fencing, stacked straw bales, and additional noise abatement measures (i.e. sound walls) may need to be installed in Project areas closest to wetland vegetation to inhibit entry of rails into the construction footprint and to minimize impacts to nesting birds as a result of construction noise and activity.

Mitigation Measure BIO-3: Avoidance of Impacts to Nesting and Migratory Birds

To avoid take of general nesting and migratory birds/raptors and potential direct and indirect impacts, it is recommended that vegetation clearing/grubbing and construction activities occur outside of the general nesting bird/raptor breeding season (between September 16 and January 31). If construction cannot be planned to occur outside of this season (February 1 to September 15), a pre-construction nesting bird survey should be conducted by a qualified biologist. If nesting raptors/birds are found within 500 feet of construction activities, then an appropriately sized no-work buffer zone (in consultation with CDFW/USFWS, as appropriate) should be established around the active nest until a qualified biologist determines the nest is no longer active. Construction will not be able occur within the no-work buffer zone area until the biologist determines that the buffer is no longer necessary (e.g., nest becomes inactive).

Mitigation Measure BIO-4: Pre-Construction Survey for Sensitive Biological Resources

Regardless of time of year, within three days prior to commencement of construction activities (including staging of equipment, clearing and grubbing) a qualified biologist shall perform a pre-construction survey for sensitive biological resources within 500 feet of Proposed Project area and verify disturbance limits have been clearly identified. If a sensitive biological resource is identified during the pre-construction survey with potential for direct or indirect impacts from the Project, biological monitoring may be necessary throughout project duration.

Mitigation Measure BIO-5: Biological Monitor and Training for Contractors

A qualified biological monitor shall be present during initial clearing and grubbing activities. Surface soils in the vegetated excavation areas shall be removed and preserved during construction and replaced when construction is complete. As appropriate, the biologist may relocate animal species offsite to appropriate habitat and in compliance with any applicable Federal, State, and local regulations pertaining to relocation activities.

The qualified biological monitor shall train contractors and construction personnel expected to be in the project impact areas on the biological resources associated within the project and avoidance and minimization measures being implemented as part of the project and document that training is implemented.

Mitigation Measure BIO-6: Preservation of Surface Soils

Surface soils including grubbed vegetation that is not a part of surface soils in in the vegetated excavation areas shall be removed and preserved during construction and replaced when construction is complete. The biological monitor (Mitigation Measure BIO- 5) will verify this is completed

Mitigation Measure BIO-7: Clearance of Debris

The Project site shall be kept as clear of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site. All spoils and materials (including grubbed vegetation) will be disposed of properly.

Mitigation Measure BIO-8: Backfill Trenches or Bore Holes

Trenches or bore holes shall not be left open if they cannot be backfilled that same day. If a trench or bore-hole cannot be backfilled, placement of a wood plank with minimum dimensions of 2-inch-thick by 6-inch-wide should be placed in a manner that an animal can climb out of the hole or trench. If an animal becomes trapped in a hole or trench a qualified biologist should be contacted immediately to relocate the animal.

Mitigation Measure BIO-9: Reduced Speed Limit

The construction-related vehicle speed limit on dirt access roads leading to the Project area shall be less than 15 miles per hour, unless otherwise posted.

3.5 Cultural Resources

Would the Project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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 a unique 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?	☐	☒	☐	☐

Discussion

A Cultural Resources Assessment was prepared in September 2018 by ECORP Consulting, Inc. for the Project. A field survey of the Project area and associated cultural resources was conducted on September 10, 2018. The complete Cultural Resources Assessment and is provided in Appendix C.

On July 31, 2018, as part of the Cultural Resources Assessment, a cultural resources records search of the California Historical Resources Information System (CHRIS) was requested from the South Coastal Information Center (SCIC) at San Diego State University, and a search of the Sacred Lands File was requested from the Native American Heritage Commission (NAHC) in Sacramento. On September 10, 2018, an intensive pedestrian survey of the Project area was conducted by an ECORP archeologist.

The CHRIS records search results indicate that 100 previous cultural resources studies have been conducted within a one-mile search radius of the Project area. Of these studies, seven investigations overlapped the Project area. A total of 42 cultural resources have been previously recorded within one mile of the Project area, including 38 pre-contact (prehistoric) sites, two historic-era sites, and two multi-component sites. Previously recorded pre-contact sites consist of habitation sites, lithic scatters, and shell middens, all evidencing the long history of human habitation in the San Dieguito River Valley. The two historic-era sites include a historic trash scatter and the community of Rancho Santa Fe (Rancho San Dieguito) itself which is recognized as a cultural landscape. Multi-component sites include a pre-contact habitation site and historic trash scatter, and a lithic and ceramic scatter mixed with historic debris. Additionally, six historic addresses are listed within the one-mile search radius. These properties consist of private residences in the Rancho Santa Fe area.

One historic-era cultural resource was identified during the field survey. SC-003 is a historic-era electric transmission line of utility poles supporting functional electric lines. This resource has been evaluated as not eligible for listing on the California Register of Historical Resources (CRHR) and the National Register of Historic Places (NRHP). No previously recorded cultural resources were located in the Project area. No new pre-contact archaeological resources were documented during this survey.

Native American outreach was initiated on August 30, 2018. *Section 3.17, Tribal Cultural Resources* provides an overview of the tribal outreach and consultation regarding the Project.

a-d) Less than Significant with Mitigation

A project-level Cultural Resources Assessment (Appendix C) was prepared to identify potential impacts to cultural resources that would result from the Project. Although 42 cultural resources have been recorded within one mile of the Project area, no previously recorded sites or historic-era properties are located within the Project area. One historic-era cultural resource was identified during the field survey but was evaluated as not eligible for listing on the CRHR and the NRHP.

Although archeological sensitivity of the Project area is low, there is potential for ground-disturbing activities to expose previously unrecorded cultural resources. Mitigation Measure CUL-1 would require that all earth disturbing work be temporarily suspended if cultural resources are discovered during construction. With implementation of Mitigation Measure CUL-1, potential impacts resulting in a substantial adverse change to the significance of historical and/or archeological resources or resulting in the direct or indirect destruction of a unique paleontological resource or site or unique geological feature would be reduced to less-than-significant levels.

The discovery of human remains is always a possibility during ground disturbing activities. Mitigation Measure CUL-2 would be implemented to ensure proper procedure would be in place if human remains were unearthed during construction activities. The implementation of this measure would reduce impacts to less-than-significant levels.

Mitigation Measures:

Mitigation Measure CUL-1: Unanticipated Discovery of Cultural Resources

In the event that archeological resources are unearthed during project construction, OMWD shall temporarily suspend all earth disturbing work within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify OMWD. OMWD shall consult on a finding of eligibility and implement appropriate treatment measures if the find is determined to be eligible for inclusion in the NRHP or CRHR. Work may not resume within the no-work radius until the OMWD, through consultation as appropriate, determines that the site either: 1) is not eligible for the NRHP or CRHR; or 2) that the treatment measures have been completed to its satisfaction.

Mitigation Measure CUL-2: Unanticipated Discovery of Human Remains

The discovery of human remains is always a possibility during ground-disturbing activities. In the event that human remains are found, OMWD shall temporarily suspend all earth disturbing work within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find.

If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the San Diego County Coroner (as per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate information center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

3.6 Geology and Soils

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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 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 wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Discussion

The Project area, within the San Dieguito River Valley, lies within the Coastal Plain region area of the Peninsular Range. The Coastal Plain region is terraced, while the Central Mountain-Valley region is characterized by ridges and basins, with the floors of the basins covered by a layer of alluvium. Southern California is considered a seismically active region. Moderate to strong earthquakes can occur on numerous local faults. Faults that have historically produced earthquakes or show evidence of movement within the past 1,000 years are considered "active faults." No known active faults are located in the project area. However, the San Dieguito River Valley is situated between two major northwest trending faults: the Elsinore Fault Zone (located 13 miles to the northeast of Bonsall) and Inglewood/Rose Canyon Fault Zone (located approximately three miles to the southwest of the Project site). Due to its location near these faults, and within the seismically active area of Southern California, the Project area, like all of San Diego County, is subject to ground shaking.

a.i, a.ii) Less Than Significant Impact

The principal seismic hazard to the Project is strong ground shaking from earthquakes produced by local and regional faults. The intensity of ground shaking would depend upon the magnitude of the earthquake, distance to the epicenter, and the geology of the area between the epicenter and the Project site. Seismically induced ground rupture could occur with the physical displacement of surface deposits in response to an earthquake's seismic waves. Ground rupture is most likely along active faults, and typically occurs during earthquakes of magnitude five or higher. Ground rupture only affects the area immediately adjacent to a fault.

No active or potentially active faults are mapped or known to occur within or adjacent to the proposed site of the recycled water pipeline extension. The closest fault is the Inglewood/Rose Canyon Fault Zone located approximately three miles to the southwest (California Department of Conservation, Division of Mines & Geology 1994). According to the California Geologic Survey's on-line *Earthquake Hazard Zone Application* (accessed 8/20/18), the Project site is not located in a fault zone. The likelihood for occurrence of ground rupture at the site is considered low due to the absence of known faulting within or adjacent to the Project area.

The test well is primarily a below ground facility and would be designed in accordance with all OMWD standard engineering guidelines. The Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death from ground shaking. Impacts would be less than significant.

a.iii, a.iv, c) No Impact

According to the City of San Diego's *Geotechnical and Relative Risk Area Map*, the Project site is located in a low to moderate risk area for geotechnical hazards (City of San Diego 2008). According to the California Geologic Survey's on-line *Earthquake Hazard Zone Application* (accessed 8/20/18), the Project site is not located in a landslide zone or liquefaction zone. Given the absence of active faults, the level topography of the project site and surrounding area, the potential for seismically induced landslides is minimal to non-existent.

Nevertheless, the Project would be designed in accordance with standard engineering techniques and guidelines such as those specified in the "*Greenbook" Standard Specifications for Public Works Construction* (Greenbook Committee of Public Works Standards, Inc. 2012) and the California Building Code (CBC; California Code of Regulations, Title 24, Part 2) to protect structures from the effects of seismic hazards such as liquefaction and landslides. The Project would not create substantial risks to life or property. There would be no impacts associated with liquefaction and landslides, and no mitigation is necessary.

The Project area is not located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project. Therefore, no impacts related to unstable geologic units would occur.

b) Less Than Significant Impact

The Project could result in minor erosion of soils on or offsite during project construction due to the presence of soil piles and exposed areas. However, OMWD will require the contractors to incorporate standard construction BMPs (see *Chapter 2, Project Description*) BMPs to control wind or water erosion of soil during construction. Potential impacts associated with erosion of top soil would be less than significant.

d) Less Than Significant Impact

Expansive soils are generally high in clays or silts that shrink or swell with variation in soil moisture content and can adversely affect the structural integrity of underground facilities. The test well would be drilled into the lower aquitard which is present from approximately 31-feet to 57-feet below ground. The total thickness of the lower aquifer at this location is about 64-feet. The lower aquifer is composed of sand with gravel layers, silt, and some clay. The Del Mar Formation mudstone (mudstone with sandstone beds) was encountered at a depth of 121-feet. Based on the results of the exploratory drilling being completed by OMWD, detailed technical specifications would be prepared for the drilling and zone testing of a 17.5-inch borehole. Specifications would follow the Construction Specifications Institute's 50 Division Master Format, with subdivisions added as required. Test well plans would be submitted for approval by both OMWD and by San Diego County Environmental Health Well Drilling Permit for drilling and constructing the test well. The test well would be designed to avoid adverse effects of potential expansive soils. Therefore, impacts related to expansive soils would be less than significant.

e) No Impact

The Project would involve installation and operation of a test well, installation and operation of a manganese pre-treatment equipment, and discharge of pump test water to the Surf Cup irrigation pond and a nearby drainage swale. Septic tanks or other alternative wastewater disposal systems would not be a part of the Project. Accordingly, no impact would occur.

Mitigation Measures: None required or recommended.

3.7 Greenhouse Gas Emissions

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☒	☐

Discussion

Greenhouse gases (GHGs) and their contribution to climate change are a global issue, but this analysis focuses on emissions associated with the Project and their relationship to statewide policies for GHG emissions reductions. In San Diego County, climate change effects include changes in temperature and rainfall patterns, changes in hydrology and water quality, coastal flooding, wildfires, threats to wildlife, and public health.

The primary GHGs of concern are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). The presence of CO_2, CH_4, and N_2O is largely the result of human activities that have accelerated the rate at which these compounds occur within the earth's atmosphere. Every GHG has a "global warming potential" (GWP), a measurement of the impact that a particular gas has on the additional heat/energy retained by the earth's atmosphere. CO_2 is the "reference gas" for climate change and has a GWP of 1. CH_4 has a GWP of 21 and N_2O has a GWP of 310, meaning that their effect on global warming would be 21 and 310 times greater, respectively, than an equivalent amount of CO_2. GHG emissions are typically reported in "carbon dioxide equivalents" (CO_2e). CO_2e provides a universal standard of measurement against which the effects of releasing (or avoiding release of) different GHGs can be evaluated.

There are initiatives to address climate change at the international, federal, state and local levels. Following is a summary of the plans, policies and regulations that are applicable to the Project:

- Executive Order (EO) S-3-05. The Governor issued EO S-3-05 in 2005 which set GHG emission reduction targets: reduce GHG emissions to 2000 levels by 2010; reduce GHG emissions to 1990 levels by 2020; and reduce GHG emissions to 80% below 1990 levels by 2050.

- Assembly Bill (AB) 32. In 2006, California passed the California Global Warming Solutions Act of 2006. It required CARB to design and implement emission limits, regulations, and other measures to reduce statewide GHG emissions to 1990 levels by 2020 (representing a 25% reduction in emissions), consistent with EO S-3-05. AB 32 establishes an enforceable statewide cap on global warming emissions and reduction measures phased in by 2012, and through discrete early action measures that could be made effective by 2010. AB 32 established a timeframe for CARB to adopt emissions limits, rules, and regulations, but did not provide thresholds or methodologies for analyzing a project's impacts on global climate change.

- CARB Scoping Plan. CARB adopted the Scoping Plan in December 2008 and a Scoping Plan Update in December 2017. The State intends to achieve GHG reductions in California required by AB 32 and Senate Bill 32 (SB 32) (described below). The Scoping Plan contains the strategies California will implement to achieve reduction of 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. In the Scoping

Plan, "CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from vehicle miles travelled (VMT), and direct investments in GHG reductions within the project's region that contribute potential air quality, health, and economic co-benefits locally."

- EO B-30-15 / Senate Bill 32. In April 2015, the Governor issued EO B-30-15 which sets the State's GHG emissions target for 2030 at 40% below 1990 levels. Similarly, SB 32 (2016) requires that CARB, in its next update to the AB 32 Scoping Plan, "ensure that statewide GHG emissions are reduced to at least 40% below the statewide GHG emissions limit no later than December 31, 2030."

- Climate Action Plan. The City of San Diego adopted its Climate Action Plan (CAP) in December 2015. The CAP has four primary purposes: 1) it provides a road map to achieve GHG reductions; 2) it conforms to California laws and regulations; 3) it implements the General Plan; and 4) it provides CEQA tiering for new development's GHG emissions. The CAP defined its GHG baseline to be 2010. The GHG emissions inventory provides a benchmark from which future emissions will be compared. Most of the baseline emissions in San Diego are comprised of the transportation (55%), electricity (24%), and natural gas (16%) sectors. Solid waste and wastewater (3%) and water (2%) account for a much smaller proportion of baseline emissions.

  The CAP identified five strategies to reduce GHG emissions to achieve the 2020 and 2035 targets, which form the basis of project-level review under the CAP Consistency Checklist:

  1. Energy and Water Efficient Buildings
  2. Clean and Renewable Energy
  3. Bicycling, Walking, Transit, and Land Use
  4. Zero Waste (Gas and Waste Management)
  5. Climate Resiliency

a, b) Less Than Significant Impact

The Project would involve both construction and operational GHG emissions. Construction is expected to last approximately one month, and the Project is expected to be operational for 12 months. Construction impacts would include emissions associated with staging and site preparation; pilot boring and well construction; discharge structure construction; and surface restoration. Operational emissions would result from daily inspection activities, including periodic inspection of the test well, test well water quality sampling, and water quality sampling for discharge during wet weather events. Further details can be found in *Chapter 2, Project Description*.

Thresholds of Significance

The City of San Diego CAP is a qualified GHG reduction plan for the purposes of tiering under CEQA. The CAP meets the requirements set forth in CEQA Guidelines section 15183.5, whereby a lead agency may analyze and mitigate the significant effects of GHG emissions at a programmatic level. The CAP Consistency Checklist provides a streamlined review process for the GHG emissions analysis of proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA. Step 1 of the CAP Consistency Checklist is determining a project's land use consistency (i.e., whether a project is consistent with the existing General Plan and Community land use and zoning designations). The CAP Consistency Checklist then focuses on whether a project is consistent with the five CAP strategies to reduce GHG emissions.

Analysis Methodology

Modeling of air emissions from construction and operation was completed in CalEEMod version 2016.3.2 for construction of the well, discharge structure, and conveyance pipelines. Details on construction, including timing, duration, equipment, and worker trips, can be found in *Chapter 2, Project Description*. Operational emissions would

result from periodic inspection of the test well, test well water quality sampling, and water quality sampling for discharge during wet weather events. O&M activities are anticipated to take place daily during the 12-month operational period of the Project and would involve the use of one light-duty pickup truck to access the inspection points. A pre-treatment test would occur over one week in August 2019. Operation of the groundwater well would involve the use of a pump which is expected to consume 115,900 kWh/year, resulting in indirect air pollution emissions from energy consumption. Further details can be found in *Chapter 2, Project Description*. Other Project details necessary for GHG emissions modeling were obtained from CalEEMod (e.g., equipment horsepower, load factors, fleet mix, and vehicle emission factors).

GHG Emissions

The Project would emit GHGs during construction and operation, which is assumed to occur from January to February 2019. Construction-related GHG emissions are associated with operation of off-road construction equipment, worker and vendor vehicle trips, and hauling trips. Operational GHG emissions are associated with mobile sources and energy consumption. A summary of estimated construction and operational GHG emissions is provided in Table 3-6. Detailed output sheets are included in Appendix A.

Table 3-6: Estimated GHG Emissions

Source	MT CO_2e Emissions
Site preparation	5.4
Construction	33
Surface restoration	3.7
Total GHG Emissions from Construction	*42.1*
Pre-treatment test	5.5
Pump	259
Daily inspections	Negligible
Total GHG Emissions from Operations	*264.5*
Total Project GHG Emissions	**306.6**

GHG emissions from construction of the Project would be small compared to numerical thresholds set by State agencies. For example, the California Air Pollution Control Officers Association (CAPCOA) produced a White Paper in 2008 that evaluates and addresses GHG emissions under CEQA to provide a common platform of information and tools to support local governments. CAPCOA identified a 10,000 MT CO_2e/year threshold for stationary sources that was being considered at the time by the Cap and Trade Market Advisory Panel. CAPCOA also identified a higher 25,000 MT CO_2e/year threshold for stationary sources, which would capture about 94% of all GHG emissions from stationary source projects in the State (CAPCOA 2008).

Furthermore, the Project would not conflict with the City of San Diego CAP Consistency Checklist because all seven items in the checklist would be “not applicable” to the Project. The Project does not include a roof component; the Project does not include plumbing fixtures or fittings; the Project would not require provision of parking spaces; the Project would not accommodate additional employees; and the Project is not in a Transit Priority Area.

The Project is anticipated to result in minimal GHG emissions. In addition, the Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. By augmenting local water storage, the Project would offset energy demands associated with imported water supplies, thereby supporting the GHG reduction goals in AB32 and SB32. The project would not result in an increase in VMT and therefore would not conflict with the CARB Scoping Plan. Because annual emissions would not conflict with the five strategies of the City

of San Diego CAP, the Project's incremental contribution to a cumulative GHG emissions effect can be considered not cumulatively considerable. Impacts would be less than significant.

Mitigation Measures: None required or recommended.

3.8 Hazards and Hazardous Materials

Would the Project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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 which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☒	☐	☐

Discussion

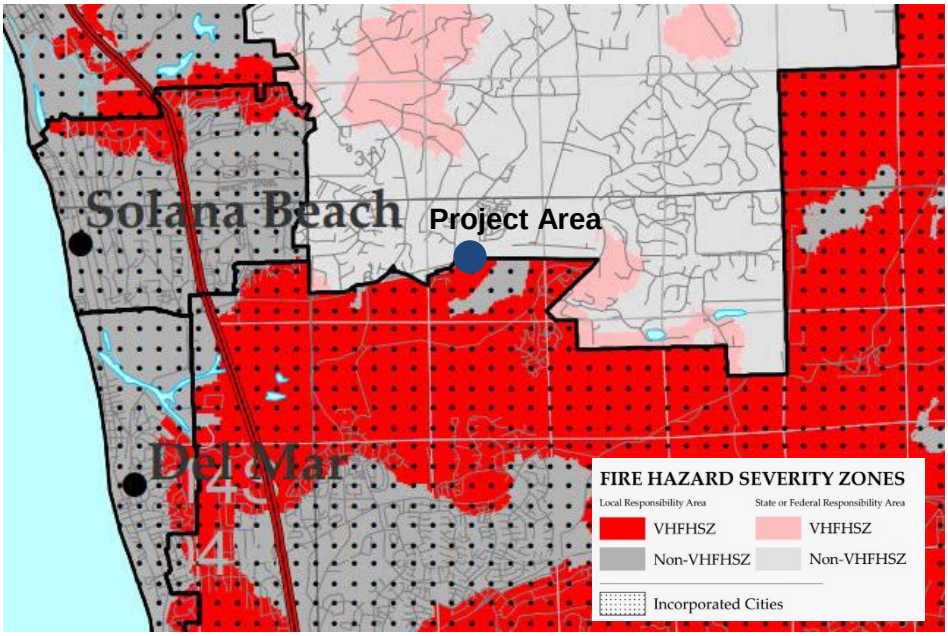
Hazardous materials are used throughout the Project area for agricultural, transportation, construction, residential, and other uses. Through natural events, system failures, and accidents (spills), hazardous materials can become a risk to the environment and human health. Numerous local, state and federal laws exist to regulate the storage, use, handling and transportation of hazardous materials. To increase public safety and awareness of hazardous materials exposure risk, businesses and entities that handle, store, transport, or use hazardous materials are required to file reports with appropriate authorities and maintain emergency response plans in the event of a hazardous materials release.

A regulatory records search was performed for the Project area using the SWRCB GeoTracker database and the California Department of Toxic Substances Control (DTSC) EnviroStor database. These lists are a compilation of information from various sources listing potential and confirmed hazardous waste and hazardous substances sites in California. There are no hazardous sites listed on the EnviroStor database within proximity to the Project. The GeoTracker database lists three cleanup sites within one mile of the Project, all of which are closed cases. One LUST Cleanup Site (David Plank) and one Cleanup Program Site (Evangelical Formosan Church) are located a half mile to the west of the Project site on El Camino Real north of Via De La Valle. Another LUST Cleanup Site (Morgan Run Resort & Club) is located three quarters of a mile to the northeast of the Project site on Via De Santa Fe

The Project is located on the border of the City of San Diego and unincorporated County of San Diego. According to the CalFire's Fire and Resource Assessment Program, the area within the City of San Diego, which includes the Surf Cup property, is within the Local Responsibility Area (LRA). According to the LRAs Map, the Surf Cup property is within the very high fire hazard severity zone (VHFHSZ) and the San Dieguito River Valley to the east of the Surf Cup property is within the non-VHFHSZ. According to SRA Map, the Morgan Run property to the north of the Surf Cup property is in a moderate fire hazard severity zone (MFHSV).

There are no airports within two miles of the Project area. The McClellan-Palomar Airport is located approximately 10 miles to the north and the Ramona Airport is located approximately 18 miles to the east of the Project.

Figure 3-1: CalFire Very High Fire Hazard Severity Zones in LRA Map



a) Less Than Significant Impact

Construction of the Project would temporarily increase the routine transport and use of hazardous materials commonly used in construction activities. Limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluids, paint, and other similar materials, would be brought into the Project area, used, and stored during the construction of the Project. Typical operations and maintenance activities are to be conducted as needed and are anticipated to occur daily during the 12-month operation period for water quality sampling. Therefore, impacts due to transportation of minor amounts of hazardous materials would be minimal.

The Project would be required to comply with applicable standards, including Division 20, Chapter 6.5, Article 6.5, Article 6.6, and Article 13 of the California Health and Safety Code and Title 40 of the Code of Federal Regulations (CFR) part 263, that regulate the transport, use, storage, and disposal of hazardous materials. Adherence to such regulations would ensure that the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Impacts are considered less than significant, and no mitigation is required.

b) Less Than Significant Impact with Mitigation

Construction of the Project could create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials used in construction, which include diesel fuel and minor amounts of paints, fuels, solvents and glues. The potential exists for accidents to occur during construction activities and routine operations and maintenance, which could result in the release of hazardous materials into the environment. Mitigation Measure HAZ-1 requires development of a Hazardous Materials Management Spill Prevention and Control Plan that includes project-specific contingencies. With Mitigation Measure HAZ-1, impacts resulting from potential hazardous materials-related accidents would be reduced to a less-than-significant level.

c) No Impact

The Project is not located within one-quarter mile of an existing or proposed school. Horizon Prep and Nativity School are the closest school to the Project, located approximately one mile to the northeast of the Project site. Therefore, the Project does not have the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. There would be no impact, and no mitigation is required.

d) No Impact

GeoTracker and EnviroStor database searches indicated there are no sites included on a list of hazardous materials sites compiled pursuant to Government Code §6592.5 within the vicinity of the Project. The GeoTracker database listed three closed cleanup sites, one approximately one mile to the north of the Project site and two approximately three-quarters of a mile to the west of the Project site. Therefore, construction and operation associated with the Project would not create a significant hazard to the public or the environment through the release of existing materials related to a listed hazardous materials site. No impacts would occur, and no mitigation is required.

e, f) No Impact

There are no public airports or private airstrips within two miles of the Project site. The closest airport to the Project site is the McClellan-Palomar Airport, which is located approximately 10 miles to the north. Therefore, the Project would no result in a safety hazard for people residing or working in the project area. No impacts would occur, and no mitigation is required.

g) No Impact

Construction of the Project would involve installation and operation of a test well, manganese pre-treatment equipment, and discharge of pump test water to the Surf Cup irrigation pond and a nearby drainage swale. All construction activities and construction staging areas would take place on the Surf Cup property, primarily on existing dirt access roads. Construction activities would not require blocking or obstruction of roadways, and would therefore, not inhibit emergency access routes. Therefore, there would be no impacts associated with interference with emergency response or emergency evacuation plans and no mitigation is required.

h) Less Than Significant Impact with Mitigation

CalFire has identified wildfire risk areas through their Fire Hazard Severity Zone maps. Within the City of San Diego, the Surf Cup property is located in a very high fire severity zone (VHFSZ), while the San Dieguito River Valley and Fairbanks Ranch Country Club are within a non-VHFSZ. The Morgan Run property and property within the unincorporated County of San Diego are within a MFHSV. The Project would primarily be constructed within developed or disturbed areas, minimizing risk of fire hazards. However, the use of spark-producing construction equipment during normal construction activities, does pose a risk of fire in a high or very high fire hazard severity zone. Due to the proximity of a designated VHFHSZ, fire safety construction measures shall be required through implementation of Mitigation Measure HAZ-2 to reduce potential impacts. Impacts are considered less than significant after mitigation.

Mitigation Measures:

Mitigation Measure HAZ-1: Hazardous Materials Management and Spill Prevention and Control Plan

Before construction begins, OMWD shall require its construction contractor to prepare a Hazardous Materials Management Spill Prevention and Control Plan that includes a project-specific contingency plan for hazardous materials and waste operations. The Plan will be applicable to construction activities and will establish policies and

procedures according to applicable codes and regulations, including but not limited to the California Building and Fire Codes, and federal and California Occupational Safety and Health Administration (OSHA) regulations. Elements of the Plan will include, but not be limited to the following:

- A discussion of hazardous materials management, including delineation of hazardous material storage areas, access and egress routes, waterways, emergency assembly areas, and temporary hazardous waste storage areas;
- Notification and documentation of procedures; and
- Spill control and countermeasures, including employee spill prevention/response training.

Mitigation Measure HAZ-2: Prevention Measures for Fire Hazards

OMWD shall require that its construction equipment staging areas be cleared of dried vegetation or other material that could ignite. Construction equipment that includes a spark arrestor shall be equipped in good working order. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, such as accidental sparks. Other construction equipment, including those with hot vehicle catalytic converters, shall be kept in good working order and used only within cleared construction zones. OMWD shall require the creation and maintenance of approved fire access to work areas, in accordance with local fire regulations. During construction of the Project, contractors shall require vehicles and crews working at the project site to have access to functional fire extinguishers.

3.9 Hydrology and Water Quality

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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 of siltation on- or off-site?	☐	☐	☒	☐

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 storm water 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 of seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion

The Project is located in the San Dieguito River Valley which stretches east to west, originating near Santa Ysabel in the Cuyamaca Mountains. River flows are controlled by the Hodges Dam. The river eventually discharges to the Pacific Ocean through the San Dieguito Lagoon near the communities of Del Mar and Solana Beach.

The Water Quality Control Plan for the San Diego Region (Basin Plan; San Diego RWQCB 1994 and amended through May 17, 2016) designates water quality standards for the San Dieguito River in the form of beneficial uses and numeric and narrative water quality objectives. Beneficial uses of the San Dieguito River include Contact Water Recreation (REC-1); Non-Contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Wildlife Habitat (WILD); and Spawning, Reproduction, and/or Early Development (SPWN).

Currently, the San Dieguito River is listed on the State's 303 (d) List of Impaired Water Bodies for Enterococcus, Fecal Coliform, Nitrogen, Phosphorus, Total Dissolved Solids, and Toxicity. The San Diego RWQCB establishes total daily maximum loads (TMDLs) to address these impairments and help achieve water quality standards. Water quality is also addressed through compliance with the NPDES stormwater discharge permits issued to municipalities, construction sites and industrial facilities to control pollutants in storm water discharges to local surface waters.

The groundwater basin in the project area is the San Dieguito Valley Groundwater Basin (DWR Basin # 9-012) which underlies the San Dieguito River Valley. Recharge of this alluvial aquifer is primarily by percolation of flow in the San Dieguito River; however, additional sources include percolation of precipitation to the valley floor, underflow beneath Hodges Dam, and underflow through sediments (DWR 2004). The Basin is a very low priority basin per the California Statewide Groundwater Elevation Monitoring (CASGEM) program, and therefore not subject to the provisions of the Sustainable Groundwater Management Act (SGMA) (Woodard & Curran 2017).

The RWQCB's designated beneficial uses of San Dieguito Basin include Municipal (MUN); Agriculture (AGR); and Industrial Supply (IND). The RWQCB has established water quality objectives to help protect the beneficial uses and achieve water quality standards. Groundwater quality is variable, but is generally high for sulfate, chloride and total dissolved solids (TDS) (DWR 2004). Recent well sampling of the basin showed TDS values ranging from 631 to 4,045 milligrams per liter (mg/L) (Woodard & Curran 2017).

a) Less Than Significant Impact

Potential water quality impacts associated with construction of the Project would be limited to short-term erosion/sedimentation that could occur from drilling of the test well, installation of the temporary above-ground well water conveyance pipeline, placement of the temporary field treatment train mounted trailer, and construction of the pump test discharge structure. Although total land disturbance for the Project would be less than one acre, and therefore compliance with the SWRCB's *NPDES General Permit for Discharges of Storm Water Associated with Construction Activity - Construction General Permit* (Order 2009-0009-DWQ) would not be required, OMWD will require its construction contractor to implement standard stormwater BMPs during construction (see *Chapter 2, Project Description*). These will include sediment and erosion controls, as well as housekeeping BMPs that minimize the potential for sedimentation and other potential pollutants from entering local drainages and the San Dieguito River. Storm water discharges from the Project site during construction would not be expected to violate existing water quality standards or waste discharge requirements set by the RWQCB. Impacts to surface water quality from storm water discharges during construction would less than significant and no mitigation measures would be required.

After construction, the test well would be operated at 600 gallons per minute for 10 months. OMWD projects beneficial use of approximately 72% of the pump test water for onsite irrigation of Surf Cup's turf areas. During dry weather, the test well water would be conveyed and discharged to the Surf Cup irrigation pond. When the irrigation pond has reached capacity or during wet weather (October – March), the test well water would be diverted to the Surf Cup's abandoned 12-inch irrigation pipeline and would discharge to Surf Cup's onsite drainage swale that drains 1,200 feet to the San Dieguito River (see *Chapter 2, Project Description*). Test well water discharges would be regularly sampled and would meet all requirements of OMWD's Amended Notice of Applicability for the *Statewide General Permit for Drinking Water System Discharges to Waters of the United States* (issued August 2018) to protect beneficial uses of surface waters. Additionally, test well discharges to Surf Cup's drainage swale would be visually monitored and the flow volume controlled so as not to oversaturate the soil or create erosion and sedimentation during both dry and wet weather.

Compliance with applicable SWRCB permitting requirements, including implementation of appropriate BMPs and adherence to monitoring requirements, would ensure the reasonable protection of past, present, and probable future beneficial uses of surface water and groundwater and the prevention of nuisances. With permit compliance, the potential for long-term impacts to surface and groundwater quality from operation of the test well would be less than significant and no mitigation measures would be required.

b) Less Than Significant Impact

The Project involves the construction and operation of a test well in the San Dieguito Valley Groundwater Basin to evaluate the feasibility of brackish groundwater desalination as a potential new local water supply source. In its 2017 *San Dieguito Valley Brackish Groundwater Desalination Feasibility Study*, OMWD verified through a hydrogeologic study, water balance, and groundwater modeling that groundwater production via brackish water desalination is sustainable (Woodard & Curran 2017). One of the objectives of the test well Project is to verify the potential for any impacts to water levels of existing wells in the Basin. As part of the Project, well water levels of current Basin users would be monitored using a network of existing piezometers and available local private wells, starting with baseline monitoring followed by quarterly sampling for a full 12-month period.

In the unexpected event that a substantial drop in water levels were to be observed, the test well pumping rate would be reduced, or as needed, shut off to maintain the ability of the San Dieguito Valley Groundwater Basin to support existing Basin users. The test well was designed to help minimize effects to other Basin users. For example, the test well was sited in a location downgradient of most wells within the test well's cone of influence to minimize drawdown effects to other wells. Additionally, the test well was designed to a depth of 150 feet below ground surface (bgs) so that groundwater would be pumped from the lower aquifer zone, whereas many of the upgradient wells are located in the upper aquifer zone and, therefore, less likely to be adversely affected by the deeper pumping of the test well. Given the test well location and depth, as well as the proposed water level monitoring, potential impacts on the groundwater basin from the Project would be less that significant and no mitigation would be needed.

Additionally, no impacts to aquifer recharge would expected since installation of the test well and above ground conveyance pipeline would only negligibly decrease pervious surface area available for recharge.

c, d, e, f) Less Than Significant Impact

Construction and operation of the test well and above ground conveyance pipeline would not change the existing surface runoff drainage patterns in the Project area nor change the volume or rate of runoff to cause a potential for erosion, sedimentation, or flooding. The Project does not require the crossing of a stream or river. However, the Project involves discharges of test well water to the Surf Cup irrigation pond and western drainage swale. These discharges would be controlled through proper operation of the test well and implementation of BMPs to prevent any flooding, erosion, and sedimentation on- or off-site. For example, the test well discharges to the irrigation pond would be released through the 8-inch above-grade pipeline and discharged above the high-water-level (air-gap) directly into the pond. No releases would occur along the bank of the pond and therefore no bank erosion would be expected For test well discharges to the Surf Cup drainage swale, the discharge outlet at the swale would include temporary erosion control (rip-rap rock energy dissipation) to reduce the potential for erosion or sedimentation within the swale. The slope of the drainage swale is 1-ft/1,000-ft (0.1%), so water velocity in the swale is expected to be low. Addition of up to 600 gpm to existing storm flows in wet weather are not anticipated to increase erosion and sedimentation or create flooding because flows would be visually monitored during rain events and inspected daily. If erosion or overflow of the swale is observed , the test well pumping rate would be reduced to lower the discharge flow rate or, as needed, could be temporarily shut off. Potential impacts to drainage and water quality would be less than significant and no mitigation measures would be needed.

g, i) No Impact

The Project is located within a 100-year floodplain of the San Dieguito River as mapped by the Federal Emergency Management Agency (FEMA 2012) and within the inundation floodway of Hodges Dam (SanGIS 2007). However, the Project does not involve construction of housing. No habitable structures would be constructed in the floodplain or inundation floodway. Therefore, the Project would not result in the placement of housing in a 100-year flood hazard zone or expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. No impact would occur.

h) Less Than Significant Impact

The Project site is mapped within the FEMA 100-year floodplain. The Project consists of a test well and above ground conveyance pipeline that would be operated temporarily to test the feasibility of a brackish water desalination pilot project. In the event of a 100-year storm during the 10-month well testing period, any potential flooding of the well and pipeline would not result in a significant impact since the well and pipeline are test facilities and not a part of existing water supply infrastructure. Additionally, these test facilities are minimal in size and would not impede or redirect flood flows. Short term construction activities to drill the well and install the pipeline would take place within the floodplain,

however, no construction activities would occur during periods of high storm flows that would impede or result in the redirection of flood flows. Impacts would be less than significant, and no mitigation would be required.

j) No Impact

The proposed test well and above ground pipeline are located in the low lying floodplain of the San Dieguito River and located approximately three miles from the ocean shoreline. No habitable structures would be constructed as part of the Project. Therefore, the Project would not expose people or structures to an inundation risk area for seiches, tsunamis, or mudflows. No impact would occur.

Mitigation Measures: None required or recommended.

3.10 Land Use and Planning

Would the Project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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 HCP or NCCP?	☐	☐	☒	☐

Discussion

The Project is located on the Surf Cup property within the City of San Diego and the San Dieguito River Valley. Adjacent land uses include the Morgan Run Resort & Club to the north, Rancho Paseana to the east, San Dieguito River and Fairbanks Ranch Country Club to the south, and Surf Cup fields and Via de la Valle to the west. The City of San Diego's General Plan designates the Project area for Park, Open Space, and Recreation Uses. The Surf Cup property is zoned as Agricultural – Residential and the San Dieguito River is designated as Open Space – Floodplain. To the north, within the unincorporated County of San Diego, the Morgan Run property is designated as Limited Agricultural Use.

The Project is located within the City of San Diego's MSCP Planning Area (City of San Diego 1996). The MSCP is a conservation program designed to facilitate the implementation of a regional habitat preserve by coordinating project impacts and mitigation while allowing the issuance of "take" permits for special-status upland species at the local level. This habitat preserve is known as the Multi-Habitat Planning Area (MHPA) and lands within it have been designated for conservation. Various jurisdictions, including the City of San Diego, have developed MSCP Subarea plans to establish guidelines for the implementation of their respective preserve areas which are included in the regional MHPA. The Project site is located outside of the City's MHPA. MSCP "covered species" are those that are considered adequately protected within the City of San Diego, provided that they are conserved according to the conditions of coverage provided in the City's MSCP Subarea Plan.

a) No Impact

The Project would involve installation and operation of a test well, installation and operation of a manganese pre-treatment equipment, and discharge of pump test water to the Surf Cup irrigation pond and a nearby drainage swale. Construction of the Project could temporarily affect adjacent land uses (through increased dust, noise, and traffic), but impacts would cease upon completion of construction and would not permanently affect the existing surrounding land uses or neighborhoods. All construction activities would occur on the Surf Cup property and would not block roadways or other access points to neighboring areas or communities. Following construction, the Project would operate for a period of 12 months and the temporary above-ground pipeline would be located along the northern property line and would not serve as a barrier within the existing community. Additionally, the Project would not permanently interfere with the pedestrian, bicycle or vehicle circulation of the neighborhoods or community. Therefore, the Project would not physically divide an established community. No impacts would occur, and no mitigation is required.

b) No Impact

The Project would not require land use or zoning changes and would not otherwise conflict with land use plans, policies, or regulations. Therefore, the Project would be consistent with all applicable land use plans, policies and regulations of agencies with jurisdiction over the Project adopted for the purpose of avoiding or mitigating an environmental effect. There would be no impacts.

c) Less Than Significant Impact

The Project is located within the City of San Diego's MSCP Subarea Plan; however, it is located outside of the City's MHPA. In addition to general guidelines and directives provided in the City's MSCP Subarea Plan, development in the City of San Diego is subject to restrictions discussed in the City of San Diego *Land Development Code Biology Guidelines* (City of San Diego 2012). The Project would not conflict with the *Land Development Code Biology Guidelines*. Therefore, impacts would be less than significant.

Mitigation Measures: None required or recommended.

3.11 Mineral Resources

Would the Project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒

Discussion

The City of San Diego's important mineral resources include salt, sand, and gravel. Extraction of San Diego's mineral resources occurs primarily in Mission Valley, as well as other locations including Carrol Canyon and Mission Gorge.

There are also mining operations within the MSCP subplan area, consisting mainly of rock, sand, and gravel. Access to aggregate reserves in western San Diego have significantly decreased over the past 20 years due to competing demands for open lands, urbanization, designation of lands within the MSCP, and depletion of active mines (City of San Diego, 2008).

In the *City of San Diego General Plan*, the Project area is classified as Mineral Resource Zone (MRZ)-1, indicating that there are no significant mineral deposits or there is little likelihood of their presence (City of San Diego, 2008).

a, b) No Impacts

The Project area is classified as MRZ-1, indicating that there are no significant mineral resources or there is low probability of the presences of mineral resources. Therefore, the Project would not result in the loss of availability of a known mineral resource of value locally or to the region and the residents of the state and no impacts would occur.

Mitigation Measures: None required or recommended.

3.12 Noise

Would the Project result in:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion

Potential noise levels are compared to local thresholds of significance, within the context of the existing ambient noise setting. Noise levels in the City of San Diego are expressed and compared as dBA CNEL. A decibel (dB) is a unit of measure of sound (noise) level. Decibel A-weighting (dBA) represents the frequency characteristics of the average human ear for various sound intensities. An A-Weight decibel refers to a scale of noise measurement that filters out lower frequencies and provides a good indicator of the annoyance potential of a noise. Community Noise Equivalent Level (CNEL) averages the sound level during a 24-hour day, after addition of five decibels to sound levels between 7pm and 10pm and addition of ten decibels to sound levels between 10pm and 7am. CNEL recognizes that noise annoyance is related to duration, how often the noise is present, how long it persists, and when it occurs. Another unit of average sound level is called equivalent continuous sound level (L_{eq}) (City of San Diego 2016).

Existing Conditions

The current ambient noise is consistent with the existing surrounding land use. The Project site is surrounded by residential development, athletic facilities (e.g., country clubs, ranches, and the Surf Cup Sportsfields), and roadways (Via de la Valle and El Camino Real). The San Dieguito River Valley is located south of the Project area on land designated open space. Via de la Valle is the primary, two-lane east-west collector and El Camino Real is the primary, two-lane north-south collector in the Project vicinity. Transportation-related noise is the dominant existing source of ambient noise at the Project site.

Daytime, evening and night time ambient noise measurements were taken on September 18 and 19, 2018. Measurements were taken at the three locations: the boundary of the San Dieguito Riverbed near the proposed site of well construction, the property line of residences on Avenida Feliz approximately 600 feet north of the well construction site, and the property line of residences on Caminito San Sebastian approximately 1,500 feet west of the well construction site.

Table 3-7: Ambient Noise (dBA)

Site	Daytime (7am-7pm) Average	Evening (7pm-10pm) Average	Nightime (10pm-7am) Average
San Dieguito Riverbed	43.7	42.7	45.46
Avenida Feliz Residences	40.5	43.0	--
Caminito San Sebastian Residences	48.0	50.0	39.7
Notes: Noise measurements were taken with a Tenma 72-945 Sound Level Meter. A nighttime reading at the Avenida Feliz residences was not recorded because access was impeded by nighttime golf course irrigation. See Appendix D for noise measurement data sheets.			

City of San Diego Noise Thresholds

According to the City of San Diego *CEQA Significance Determination Thresholds* (City of San Diego 2016), noise is one factor to be considered in determining whether a land use is compatible. Land use compatibility noise factors are presented in Table 38. Compatible land uses are shaded; incompatible land uses are unshaded.

Table 3-8: City of San Diego Noise Land Use Compatibility Chart

Land Use	Annual dBA CNEL					
	50	55	60	65	70	75
Nature preserves, wildlife preserves						
Residential single-family, multi-family, mobile homes, transient housing						
Riding stables, water recreation facilities						
Outdoor spectator sports, golf courses						

Source: City of San Diego 2016

For noise from adjacent stationary sources, a project that would generate noise levels at the property line that exceed the City's Noise Ordinance Standards is considered to have a potentially significant impact (such as projects operating generators or noisy equipment). If a non-residential use, such as a commercial, industrial or school use, is proposed to abut an existing residential use, the decibel level at the property line should be the average of the decibel levels allowed for each use as set forth in the Municipal Code §59.5.0401. Although the noise level above could be consistent with the City's Noise Ordinance Standards, a noise level above 65 dBA CNEL at the residential property line could be considered a significant environmental impact.

According to the City of San Diego Municipal Code §59.5.0401, it is unlawful to cause noise to the extent that the one–hour average sound level exceeds the applicable limit given in the Table 3-9, at any location in the City of San Diego on or beyond the boundaries of the property on which the noise is produced. These noise limits would apply to operation of the Project.

Table 3-9: City of San Diego Table of Applicable Noise Limits

Land Use	Time of Day	One-Hour Average Sound Level (decibels)
Single Family Residential	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m	50 45 40
Multi-Family Residential	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	55 50 45
All other Residential	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	60 55 50
Commercial	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	65 60 60
Industrial or Agricultural	Any time	75

Source: City of San Diego Municipal Code §59.5.0401

Temporary construction noise is regulated under the City of San Diego Municipal Code §59.5.0404. Temporary construction noise that exceeds 75 dB (A) L_{eq} at a sensitive receptor would be considered significant. Construction noise levels measured at or beyond the property lines of any property zoned residential shall not exceed an average sound level greater than 75 dB during the 12-hour period from 7:00 a.m. to 7:00 p.m. In addition, construction activity is prohibited between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays, or on Sundays, that would create disturbing, excessive, or offensive noise unless a permit has been applied for and granted

beforehand by the Noise Abatement and Control Administrator. The municipal code specifies that nighttime work can be permitted if it is in the general public interest. Where temporary construction noise would substantially interfere with normal business communication, or affect sensitive receptors, such as day care facilities, a significant noise impact may be identified.

Regarding sensitive wildlife, according to the City of San Diego *CEQA Significance Determination Thresholds* (City of San Diego 2016), noise mitigation may be required for significant noise impacts to certain avian species during their breeding season, depending upon the location of a project such as in or adjacent to an MHPA, whether or not the project is occupied by the California gnatcatcher, least Bell's vireo, southern willow flycatcher, least tern, cactus wren, tricolored blackbird or western snowy plover, and whether or not noise levels from a project, including construction during the breeding season of these species, would exceed 60 dBA or existing ambient noise level if above 60 dBA. Significant noise impacts to the California gnatcatcher are only analyzed if the project is within an MHPA; there are no restrictions for the gnatcatcher outside the MHPA any time of year (City of San Diego 2016).

Although Morgan Run Resort & Club and residences to the north of the Project site are within the jurisdiction of the County of San Diego, the Project is located on and subject to regulation by the City of San Diego.

a, d) Less Than Significant with Mitigation Incorporated

The Project has the potential to expose persons and sensitive wildlife to noise resulting from construction activities. As described in *Chapter 2, Project Description*, construction is anticipated to occur from January to February 2019. However, construction is anticipated to be completed prior to the beginning of nesting bird season on February 15th. Construction activities associated with the Project would result in temporary noise increases. Construction noise levels fluctuate depending on the construction phase, equipment type, and duration of use; distance between noise source and receptor; and presence or absence of barriers between the noise source and receptor. A list of construction equipment that may be used at any one time during construction can be found in *Chapter 2, Project Description*.

Noise receptors in the vicinity of the Project site include agriculture, athletic/recreational facilities, and the San Dieguito Riverbed. The nearest residences are located to the north along Avenida Feliz at Morgan Run Resort & Club approximately 600 feet away from the proposed construction activities. The Polo Place and Caminito San Sebastian residential neighborhoods are to the west and uphill from the Project site. Although they are 1,500 feet away from the Project site, these residences are 100 feet higher in elevation. The adjacent Sportsfields, golf courses, and ranches are not considered noise sensitive receptors.

Project construction would be temporary, lasting approximately one month, and would vary depending on the phase of construction. Construction would involve a seven-day site preparation phase. Installation of the well is estimated to last approximately six days and would take place in a single location and affect the same receptors throughout the phase. Pipeline construction from the test well to the irrigation pond would last two days and would not generate significant noise, as these temporary facilities would be placed above ground (i.e., no trenching). Construction of the 6-inch pipeline and discharge structure to the drainage swale is anticipated to last approximately six days, and would be located on the far western portion of the Surf Cup site (5,000 ft west of the rest of the construction activities). Finally, there would be a five-day surface restoration phase for both the well site and discharge structure site. After completion of the groundwater test, during the surface restoration phase, all temporary above-grade piping, discharge rip-rap structure, and buried piping would be removed, backfilled and compacted and the site restored to its original condition.

The phase of test well installation that would generate the greatest noise is the drilling operation. Drilling of the test well would require six days of drill operation for 24 hours/day, including pilot borehole drilling for one day, isolated aquifer zone testing for two days, borehole enlargement for one day, and well construction for two days. During this timeframe, the drill rig would generate noise levels of approximately 90 dB measured at a distance of 50 feet

consistently for 24 hours per day for six days. The drilling operation would involve the steady humming of the drill rig engine with occasional clanging associated with adding a new pipe to the rig.

Noise levels during the 6-day, 24-hour well installation phase were modeled using the Federal Highway Administration Roadway Construction Noise Model (RCNM), Version 1.1. Noise was modeled under two scenarios: one with no noise attenuating features, and one with a sound wall. At a distance of 50 feet, the sound measurement of the operating drill rig is approximately 90 dB without sound walls; with sound walls installed, the noise of the drill rig is approximately 65 dB at a distance of 50 feet. In addition to the drill rig, it was assumed that the well construction phase would use a backhoe concurrently with the drill rig for moving pipe. It was also assumed a pickup truck may be operating simultaneously with the backhoe and drill rig to transport workers to and from the job site. Model default decibel values were used for the backhoe and pickup truck. Estimated noise levels at receptors with and without a sound wall are presented in Table 3-10.

Table 3-10: Anticipated 24-Hour Well Construction Noise

Receptor	Calculated dBA Leq Without Sound Wall	Calculated dBA Leq With Sound Wall
San Dieguito Riverbed	90.1	74.1
Avenida Feliz Residences	68.5	52.6
Caminito San Sebastian Residences	60.6	44.6

Sources: FHA RCNM. Geoscience 2018.

During this activity, temporary construction noise at the adjacent parcels has the potential to be significant. The standard construction BMPs for noise described in *Chapter 2 Project Description* would reduce the impacts of temporary construction noise; however, impacts may still be above City thresholds for temporary construction noise. Mitigation Measure NOI-1 would require the use of a sound wall to reduce noise during the well drilling phase. With the sound wall installed, noise associated with construction of the well is anticipated to be in line with the City thresholds of 75 dB for day time construction noise during the hours of 7:00 a.m. and 7:00 p.m. The Project would comply with the City of San Diego ordinance by obtaining a permit and a variance for construction activities outside of daytime hours. In addition, Mitigation Measure NOI-2, which requires public noticing and a process for accepting noise complaints, would be implemented. With mitigation, impacts from construction noise on nearby residences would be less than significant.

Construction of the drainage structure and 6-inch pipeline to the drainage swale would last approximately six days and involve the use of a backhoe and excavator to move materials around the site and construct the trench for the 6-inch pipe. This phase would also involve pickup trucks to transport workers to and from the site. Typical noise levels from commonly used pieces of construction equipment, at a distance of 50 feet, are shown in Table 3-11.

Table 3-11: Typical Construction Equipment Noise Levels

Equipment	Typical Noise Levels (dBA, at 50 feet)
Excavator	81
Backhoe	78
Compactor	83
Dump truck	76
Front end loader	79
Water trucks	84
Flat-bed delivery trucks	74
Concrete mixer truck	79
Compressor	78
Pickup Truck	75

Source: FHWA, 2006.

The discharge structure is located at the far western end of the Surf Cup property. The site is surrounded by El Camino Real and a horse park to the west, vacant land and Via De La Valle to the north, and the Surf Cup fields to the east and south. El Camino Real and Via De La Valle are the major north-south and east-west through roads for the area. Given the relatively short duration of construction (six days), the lack of noise sensitive land uses in the immediate vicinity, the anticipated daytime construction schedule, and the relatively high existing ambient noise levels from El Camino Real and Via De La Valle, impacts would be less than significant.

The site preparation and surface restoration phases would have short durations (approximately seven days and five days, respectively). These phases would involve clearing and site preparation, vendor delivery trips, and material hauling trips. Noise levels along truck routes would result from the estimated six daily worker trips, the three vendor hauling trips during the site preparation phase, and the hauling trip during the surface restoration phase. Truck noise depends upon vehicle speed, load, terrain, and other factors. The effects of construction-related truck traffic would depend on the level of background noise already occurring at a particular receptor site, and the existing ambient noise levels. In quiet environments, truck noise would be more noticeable than where the existing ambient noise level is high. The site preparation phase would involve the use of a dump truck and dozer for site clearing and materials delivery. Typical noise levels from commonly used pieces of construction equipment, at a distance of 50 feet, are shown in Table 3-9. The site preparation and surface restoration phases would occur within the daytime hours of 7:00 a.m. and 5:00 p.m., and would not occur on weekends and holidays. Given the relatively small number of trips (six worker trips, three vendor trips, and one hauling trip), the anticipated daytime construction schedule, and the short duration of these phases (seven days for site preparation and five days for surface restoration), impacts are expected to be less than significant. Construction noise levels could exceed 60 dBA, or the existing ambient noise level if above 60 dBA, at the adjacent San Dieguito Riverbed. If the Project construction site were occupied by the California gnatcatcher, least Bell's vireo, southern willow flycatcher, least tern, cactus wren, tricolored blackbird or western snowy plover, and if construction were to occur during the breeding season of these species, impacts could be potentially significant. The Project construction site is not known to be occupied by these bird species and construction of the Project would occur outside of the breeding season. Furthermore, Mitigation Measures BIO-2, BIO-3, BIO-4 and BIO-9 would reduce the potential impacts to a less than significant level because they requires pre-construction surveys for these species and a reduction in construction vehicle speed. Implementation of Mitigation Measure NOI-1 would further reduce this impact. With mitigation, noise impacts on the adjacent San Dieguito River Valley would be less than significant.

b) Less Than Significant Impact

Construction has the potential to cause groundborne vibration and groundborne noise. Generally, a project would result in a significant impact if it produced groundborne vibration levels equal to or in excess of 0.2 in/sec peak particle velocity (PPV) (FTA 2006). Construction activities associated with the Project would result in temporary spikes in groundborne vibration and groundborne noise. Groundborne vibration levels would fluctuate depending on the construction phase, equipment type, and duration of use; as well as the distance between source and receptor. Typical vibration levels for construction equipment are shown in Table 3-12.

Table 3-12: Typical Construction Equipment Vibration Levels

Equipment	Typical Vibration Source Levels PPV at 25 feet (in/sec)
Pile Driver (impact) – typical	1.518
Clam shovel drop (slurry wall)	0.202
Vibratory roller	0.210
Hoe ram	0.089
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jack hammer	0.035
Hydromill (slurry wall) – in soil	0.008
Small bulldozer	0.003

Source: FTA, 2006.

According to the Federal Transit Administration Transit Noise and Vibration Impact Assessment (FTA 2006), Groundborne vibration from construction attenuates based on peak particle velocity of the equipment and distance from the equipment to the receiver. Groundborne vibration from the most impactful piece of equipment (impact pile driver) attenuates to below 0.2 in/sec PPV at a distance of 100 feet ($PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$ (FTA 2006)). The Project is proposing to use construction equipment that causes less groundborne vibration than an impact pile driver. Groundborne vibration from construction of the Project, which would use equipment similar to the Caisson drilling equipment referenced in Table 3-9, is expected to attenuate to reach a less than significant level at a distance of 25 feet or less. As there are no structures that could suffer damage from groundborne vibration within 25 feet of the Project site, impacts are anticipated to be less than significant and no mitigation would be required.

c) Less Than Significant Impact

The Project would develop a test well, discharge structure, and temporary conveyance pipe. The Project is not expected to result in a substantial permanent increase in noise, other than noise associated with daily O&M vehicle trips and operation of the well pump. According to the Federal Highway Administration Roadway Construction Noise Handbook (FHWA 2006), pumps have an actual L_{max} of 81 dBA at a distance of 50 feet and specified L_{max} of 77 dBA at a distance of 50 feet. The pump that would be installed by the Project would be submersible, which would reduce its noise level. Furthermore, sound levels naturally attenuate due to distance. For point sources, such as the proposed pump, attenuation with distance is large: 6 dB per doubling of distance (FTA 2006). The nearest residences at Avenida Feliz, are located 600 feet away from the pump site. Given the distance between the noise source and the receptor, as well as the existing levels of traffic noise in the Project area from Via de la Valle and El Camino Real, any permanent increase in ambient noise levels as a result of the Project is not expected to exceed local standards (50 dB daytime/40 dB nighttime within the City). Impacts would be less than significant.

e, f) No Impact

The Project site is not located within an airport land use plan or within two miles of a public airport or private airstrip. Furthermore, the Project would not involve inhabited structures or facilities within the vicinity of an airport or airstrip. Therefore, it would not expose people to excessive noise levels associated with air traffic. There would be no impact.

Mitigation Measures: See BIO-2, BIO-3, BIO-4 and BIO-9 in *Section 3.4 Biological Resources*.

Mitigation Measure NOI-1: Temporary Construction Sound Barrier

Prior to the start of the well construction phase, OMWD or its contractor shall install a sound wall barrier around the site of construction activities. The sound wall barrier shall be constructed to mitigate noise at residential homes 600 feet north of the well site along Avenida Feliz, and 1,500 feet southwest of the well site along Caminito San Sebastian. The sound wall barrier shall be 24 feet in nominal height with blanketed wall panels to mitigate noise levels to less than 75 dBA at the property line of the receptor. Sound levels shall be continuously monitored throughout construction activities to ensure adequate noise reduction. The sound wall barrier shall be constructed along the perimeter of the drill rig with no openings or gaps that would allow noise levels to exceed 75 dBA at the property line of the nearest sensitive receptor. Additional sound panels shall be placed around the drill rig engine to mitigate vertical noise propagation, if necessary to reduce noise levels to less than 75 dBA at the residential property line.

Mitigation Measure NOI-2: Public Noticing and Liaison during Construction

At least one week prior to the start of construction, OMWD will provide notice to residents, property owners, businesses, and schools within 1,500 feet of the proposed well site. Notices would include an anticipated construction schedule and description of anticipated construction activities and their expected duration in addition to any other pertinent information.

During the well drilling phase, OMWD will identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise and other construction disturbance. OMWD will also establish a program for receiving questions or complaints during construction and develop procedures for responding to callers. Procedures for reaching the public liaison officer via telephone or in person will be included in notices distributed to the public in accordance with the information above.

3.13 Population and Housing

Would the Project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒

Discussion

The Project is located at the border of the City of San Diego and unincorporated County of San Diego. OMWD serves a population of approximately 86,000 occupying 21,141 single family units and 4,592 multi-family units, and is approximately 89% built-out (OMWD, 2016). It is anticipated that OMWD's service area population will increase to approximately 77,276 in 2035 with 22,992 single family and 4,661 multi-family homes.

a, b, c) No Impact

The Project would involve installation and operation of a test well, installation and operation of a manganese pre-treatment equipment, and discharge of pump test water to the Surf Cup irrigation pond and a nearby drainage swale. The Project would collect groundwater data to evaluate the feasibility of desalinating the brackish groundwater in the San Dieguito Valley groundwater basin to provide OMWD with a safe, reliable drinking water source. As the Project is a pilot project and involves testing only, the Project would not result in a new water supply. Therefore, the Project would not induce substantial population growth, or displace housing or people necessitating the construction of replacement housing. No impacts would occur, and no mitigation is required.

Mitigation Measures: None required or recommended.

3.14 Public Services

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
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?	☐	☐	☐	☒

Discussion

The City of San Diego Fire Department and Rancho Santa Fe Fire Protection District provide fire protection services within the Project area (City of San Diego, 2018). The City of San Diego Fire Station 46 is located 3.5 miles to the east and Station 24 is located 2 miles to the south of the Project site. The Rancho Santa Fe Fire Protection District Station 3 is located one mile to the northeast of the Project site.

The City of San Diego Police Department and the San Diego County Sheriff's Department provide law enforcement services, and the California Highway Patrol provides traffic enforcement services within the Project area.

There are no schools within one mile of the Project site. Horizon Prep and Nativity School are both located approximately 1.5 miles to the northeast of the Project site.

The County of San Diego Parks and Recreation Department owns and maintains public parks near the Project area. The San Dieguito County Park is located approximate one mile to the northwest of the Project site. The San Dieguito River Park is the only park within one mile of the Project site and extends along the San Dieguito River Valley from the ocean at Del Mar to Vulcan Mountain just north of Julian. The Del Mar Horse Park, owned and maintained by the Del Mar Fairgrounds, is located approximately 0.75 mile to the west of the Project site.

a) No Impact

The Project would not change existing demand for public services (e.g., fire and police protection, schools, parks, libraries, or health clinics) because population growth would not result from construction of the Project (see *Section 3.13 Population and Housing*). In addition, the O&M requirements for the Project would be minimal, and therefore would not substantially increase the need for new staff from public protection services entities. As implementation of the

Project would not change the demand for any of the public services, it would not require additional equipment or resources for those public service providers. The Project would have no impact, and no mitigation is required.

Mitigation Measures: None required or recommended.

3.15 Recreation

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
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?	☐	☐	☐	☒

Discussion

Several different types of recreational facilities are located in and around the Project area, including bicycle facilities, trails, and parks. The San Dieguito River Park is the only park within one mile of the Project site and extends along the San Dieguito River Valley from the ocean at Del Mar to Vulcan Mountain just north of Julian. The San Dieguito River Valley Regional Open Space Park Joint Powers Authority (JPA), which is composed of the County of San Diego and cities of Del Mar, Escondido, Poway, San Diego, and Solano Beach, is the agency responsible for creating and maintaining the natural open space park along the San Dieguito River. The Coast-to-Crest Trail is located along the San Dieguito River Valley; however, it is not fully complete. There are plans to connect the existing trail to the south of the Del Mar Horse Park to the Black Mountain Open Space Park trail and the Lusardi Creek County Preserve. The Coast-to-Crest Trail currently ends at El Camino Real to the west of Surf Cup; however, an informal access trail along the southern edge of the Surf Cup property along the San Dieguito River is used by local residents and equestrians.

A City of San Diego Class II Bicycle Lane ends at Via de la Valle and El Camino Real approximately 0.75 mile west of the Project site (City of San Diego, 2012).

Additional recreational facilities within the Project area include the Surf Cup (Project site) and the Del Mar Horse Park.

a, b) No Impact

The Project would install and conduct a one-year pump test to support OMWD in pursuing brackish groundwater desalination in the San Dieguito Valley Groundwater Basin. The Project would not increase the use of existing parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Similarly, the Project would not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Thus, no impacts would occur, and no mitigation is required.

Mitigation Measures: None required or recommended.

3.16 Transportation/Traffic

Would the Project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Conflict with and 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 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?	☐	☐	☐	☒
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?	☐	☐	☒	☐

Discussion

Transportation in San Diego County is planned through SANDAG in a regional effort. *San Diego Forward: The Regional Plan* (SANGAD, 2015) was adopted by the SANDAG Board of Directors in October 2015 and combines the big-picture vision for how the region will grow by 2050 with an implementation program to help make that vision a reality. The Regional Plan, including its Sustainable Communities Strategy (SCS), is built on an integrated set of public policies, strategies, and investments to maintain manage and improve the transportation system through 2050.

The Project area is located south of Via de la Valle and east of El Camino Real, two major arterial roadways. Interstate 5 is located 2 miles to the west of the Project. The speed limit along Via De La Valle adjacent to the Project site is 45 mph and motorists utilize the roadway to travel between Interstate 5 and the communities of Rancho Santa Fe, Del Mar, Solana Beach, Fairbanks Ranch, and north San Diego. The Coast-to-Crest Trail is located along the San Dieguito River Valley; however, it is not fully complete. The Coast-to-Crest Trail currently ends at El Camino Real to the west of Surf Cup; however, an informal access trail along the southern edge of the Surf Cup property along the San Dieguito River is used by local residents and equestrians.

a, b, f) Less than Significant

The Project would install and conduct a one-year pump test to support OMWD in pursuing brackish groundwater desalination in the San Dieguito Valley Groundwater Basin. All construction activity would occur within the City of San Diego on the Surf Cup property, primarily within and adjacent to existing dirt access roads. As described in *Chapter 2, Project Description*, during the busiest days, construction of the Project would involve an average crew of seven people and could generate up to 10 round-trips per day, including one round trip for off hauling of material, three round trips for delivery of materials, and six small vehicle trips for construction worker commuting. These construction crews would access the site through Surf Cup (Via de la Valle). Project construction would not require the closure or interference of public roadways, pedestrian or bicycle pathways. Implementation of the Traffic Management Plan, as described in *Chapter 2, Project Description*, would minimize impacts resulting from construction equipment entering and exiting the Project site. Construction of the Project would not significantly impact traffic circulation or conflict with an applicable plan, ordinance, policy or congestion management program.

An informal portion of the Coast-to-Crest Trail is located along the southern boundary of the Surf Cup property. This informal trail passes directly adjacent to the test well site. During construction, temporary fencing would be provided around the drill rig to allow the informal trail to remain open and reduce potential impacts to walkers and equestrians. Construction of the Project would not require closure of this informal trail. Because of the short duration of construction, the potential impact to walkers and equestrians is considered less than significant.

Upon completion of construction, O&M activities would involve periodic inspection of the test well to ensure functionality, test well water quality sampling, and water quality sampling for discharge during wet weather events. O&M activities would occur as needed and are anticipated to take place daily during operation for the 12-month period for water quality sampling. Equipment that would be used for O&M activities would include pickup truck. Operation of the recycled water pipeline would not require the closure or interference of public roadways, pedestrian or bicycle pathways, or any other circulation systems. The Project would not conflict with an applicable plan, ordinance, policy or congestion management program. There would be less than significant impacts and no mitigation is required.

d, e) No Impact

Because the Project would not require the closure or interference of public roadways, pedestrian or bicycle pathways, or any other circulation systems, there would be no increase in hazards or disruption of emergency access. All construction and O&M activity would occur on private parcels. There would be no impact.

c) No Impact

The Project would not involve an airport and would not affect air traffic levels or patterns. There would be no impact.

Mitigation Measures: None required or recommended.

3.17 Tribal Cultural Resources

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	☐	☒	☐	☐

Discussion

A Cultural Resources Assessment was prepared in September 2018 by ECORP Consulting, Inc. for the Project. A field survey of the Project area and associated cultural resources, including tribal cultural resources, was conducted on September 10, 2018. The complete Cultural Resources Assessment and is provided in Appendix C.

On July 31, 2018, a search of cultural resources records housed at the SCIC at San Diego State University and a search of the Sacred Lands File was requested from the Native American Heritage Commission (NAHC) in Sacramento. *Section 3.5, Cultural Resources* provides an overview of the SCIC and other database searches that were conducted for the Project. According to the search, 100 previous cultural resources studies have been conducted within a one-mile search radius of the Project area. However, no previously recorded sites or historic-era properties are located within the Project area. One historic-era cultural resource, an electric transmission line of utility poles supporting functional electric lines, was identified during the field survey. This resource has been evaluated as not eligible for listing on the CRHR and the NRHP.

The results of the Sacred Lands File search by the NAHC did not indicate the presence of Native American sacred lands within the vicinity of the Project Area. In addition to the search of the Sacred Lands File, the NAHC identified 27 Native American groups and individuals with historical and traditional ties to the Project area. Letters were sent by OMWD to two Native American organizations on August 30, 2018; one letter was sent in compliance with California Assembly Bill 52 (AB 52). One Native American group, the San Luis Rey Band of Mission Indians, had previously requested consultation with OMWD regarding proposed projects in its traditional cultural area. As of September 27, 2018, no response had been received.

a) Less than Significant with Mitigation

A project-level Cultural Resources Assessment (Appendix C) was prepared to identify potential impacts to cultural resources, including tribal cultural resources, that would result from the Project. Although no tribal cultural resources have been recorded or identified within the Project area and much of the Project area has been previously disturbed and the possibility of encountering intact subsurface cultural resources is considered low, there is potential for ground-disturbing activities to expose previously unrecorded tribal cultural resources. Mitigation Measures CUL-1 would require that all earth disturbing work be temporarily suspended if cultural resources, including tribal cultural resources, are discovered during construction. With implementation of Mitigation Measure CUL-1, potential impacts resulting in a substantial adverse change to the significance of historical and/or archeological resources or resulting in the direct or indirect destruction of a unique paleontological resource or site or unique geological feature would be reduced to less-than-significant levels.

The discovery of human remains is always a possibility during ground disturbing activities. Mitigation Measure CUL-2 would be implemented to ensure proper procedure would be in place if human remains were unearthed during construction activities. The implementation of this measure would reduce impacts to less-than-significant levels.

b) Less than Significant Impact

No previously recorded sites or historic-era properties are located within the Project area. One historic-era cultural resource, an electric transmission line of utility poles supporting functional electric lines, was identified during the field survey. This resource has been evaluated as not eligible for listing on the CRHR and the NRHP. Therefore, potential impacts to tribal cultural resources with cultural value to a California Native American Tribe that is listed or eligible for listing in the CRHR or in a local register of historical resources would be less than significant.

Mitigation Measures: Refer to Mitigation Measures CUL-1 and CUL-2 in *Section 3.5 Cultural Resources*.

3.18 Utilities and Service Systems

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒

Discussion

Water Supply

Water supply services for the Project area are provided by OMWD. OMWD provides potable water, wastewater, and recycled water services. The primary source of potable water is imported water from the San Diego County Water Authority (SDCWA), the water wholesaler for the region. For its raw water supply, SDCWA purchases imported water from the State Water Project and Colorado River from Metropolitan Water District of Southern California (Metropolitan), as well as through transfer and conservation agreements with Imperial Irrigation District (IID). For its treated water supply, SDCWA blends its imported water with desalinated seawater from the Claude Lewis Carlsbad Desalination Plant. SDCWA and many of its 24 member agencies, including OMWD, are seeking to reduce their reliance on imported water through implementation of alternative options, including increased use of recycled water, potable reuse, increased groundwater extraction, and seawater desalination.

Wastewater and Recycled Water

OMWD provides wastewater collection and treatment services in the Project area. Wastewater is treated at OMWD's 4S Ranch WRF, which is then distributed via the Southeast Quadrant and the Northwest Quadrant recycled water distribution systems. A hundred percent of wastewater treated at the 4S Ranch WRF is distributed for recycled water use, and OMWD has agreements with Vallecitos Water District, the City of San Diego, Rancho Santa Fe CSD, and San Elijo JPA for additional recycled water supplies. OMWD intends to continue expanding its recycled water systems to provide a reliable, drought-proof water supply, to offset imported water demands, and to meet additional recycled water demands.

Stormwater

Stormwater quality and flooding potential in the Project area are described in *Section 3.1.8 Hydrology and Water Quality*. Stormwater is regulated under the Municipal Separate Storm Sewer System (MS4) Permit, which was reissued for San Diego County in 2013 (and amended in 2015). Co-Permittees named in the MS4 Permit are responsible for implementation of the compliance requirements in the permit. OMWD does not have jurisdiction over stormwater and is not a Co-permittee of the MS4 Permit.

Solid Waste

Waste collection in the Project area is provided by Waste Management. There are two transfer stations in the North County region (but outside of the Project area): Carlsbad Palomar Transfer Station and Escondido Resource Recovery. The former is located in the City of Carlsbad on El Camino Real east and south of I-5 and State Route 78. The latter is located on W. Washington Avenue near State Route 78 in eastern Escondido. The Miramar Landfill, located on Convoy Street north of State Route 52, serves the City of San Diego.

Utilities

San Diego Gas and Electric (SDG&E) is the public utility providing gas and electric service for San Diego County, including the Project area.

a, e) No Impact

The Project would install and conduct a one-year pump test to support OMWD in pursuing brackish groundwater desalination in the San Dieguito Valley Groundwater Basin. The Project would not involve or impact wastewater treatment requirements or require new water or wastewater treatment facilities. As discussed in *Section 3.13 Population and Housing*, the Project would not induce population grow or the need for housing, and would therefore, not result in additional demand on OMWD's wastewater treatment system. Additionally, the 4S Ranch WRF has a 2.0 MGD capacity, which is enough to provide wastewater collection and treatment services to build-out of OMWD's service area. There would be no wastewater impacts.

b, d) Less than Significant

The *2017 San Dieguito Valley Brackish Groundwater Desalination Feasibility Study* concluded that there is sufficient groundwater supply in the Basin to implement a 1.0 mgd desalination facility (see *Section 3.9 Hydrology and Water Quality*). The San Dieguito Valley Groundwater Basin is not adjudicated nor currently subject to CASGEM or SGMA, and groundwater modeling showed that there are sufficient groundwater supplies available to support the Project. Upon completion of the Project's one-year pilot and depending on testing results, OMWD may move forward with a full-scale desalination project. However, any potential impacts associated with a full-scale project would be addressed in a separate, project-specific CEQA document. Therefore, this design pilot project would not require or result in the construction of new water or wastewater treatment facilities. Impacts would be less than significant impact and no mitigation is required.

c) Less than Significant

During construction, OMWD would implement stormwater BMPs per their standard specifications (refer to *Chapter 2, Project Description* and *Section 3.9 Hydrology and Water Quality*). With implementation of the BMPs, construction of the Project is not anticipated to generate surface runoff in quantities that would require construction of new off-site storm drains or expansion of existing off-site storm drains.

The majority of the Project area consists of unpaved ground surfaces that would be restored to pre-construction conditions after construction is complete. The test well, with an operational footprint of 20 ft by 20 ft, and discharge structure at the drainage swale would be the only above-ground components of the Project and would not result in the creation of substantial new impermeable surfaces. The temporary above-ground pipeline from the test well to the Surf Cup irrigation pond would not create new impervious surfaces. Implementation of the Project would not result in the need for additional off-site storm water drainage facilities or expansion of existing facilities that would cause significant environmental effects. Impacts would be less than significant and no mitigation is required.

f, g) No Impact

Construction and implementation of the Project is not anticipated to generate a significant amount of solid waste. To the extent possible, excavated soil would be reused on site. The construction contractor(s) would be required to dispose of excavated soil and solid wastes in accordance with local solid waste disposal requirements. Waste material may be hauled to the City of San Diego's Miramar Landfill or one of the transfer stations: Carlsbad Palomar Transfer Station and Escondido Resource Recovery.

Solid waste generation would be limited to construction-related activities and would not affect available solid waste disposal capacity in the region. No long-term solid waste generation would be associated with the Project. Therefore, no impacts would occur, and no mitigation is required.

Mitigation Measures: None required or recommended.

3.19 Environmental Justice

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Cause impacts to minority or low-income populations that are disproportionately high and adverse, either directly, indirectly, or cumulatively?	☐	☐	☐	☒

This section is included in the IS/MND checklist because consideration of environmental justice is required under NEPA. Compliance with NEPA is required to receive federal grant funding, and OMWD has applied for grant funding from the U.S. Bureau of Reclamation. Environmental justice is defined by the U.S. Environmental Protection Agency (USEPA) as *"The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."*

According to the U.S. Bureau of Labor Statistics, the San Diego-Carlsbad Metropolitan Statistical Area (County of San Diego) had a 3.4% unemployment rate in August 2018. The unemployment rate decreased from the year-ago estimate of 4.3%. The top industries in the region are professional and business services; government; educational and health services; trade, transportation and utilities; leisure and hospitality; and manufacturing (California EDD, 2018).

USEPA guidelines recommend that analysis of low-income communities consider U.S. Census Bureau's poverty level definitions, as well as applicable state and regional definitions of low-income and poverty communities. U.S. Census data define the poverty level based on income, household size, and number of minors. Poverty levels range from $12,488 (one person household) to $50,780 (nine or more person household). Disadvantaged communities (DACs) and severely disadvantaged communities (SDACs) are defined by the California Department of Water Resources (DWR) as those communities with a median household income (MHI) of 80% and 60% or less than the statewide MHI, respectively. Based on American Community Survey data for California, statewide MHI for 2017 was $63,783, making DACs and SDACs any community with an MHI of $51,026 and $38,270, respectively.

USEPA's *Environmental Justice Screening and Mapping Tool* (USEPA 2017) shows no environmental justice communities within the Study Area.

DWR's *Disadvantaged Communities Mapping Tool* (DWR 2018) shows no disadvantaged communities or economically distressed areas within the Study Area.

Impact a) No Impact

Implementation of the Project includes construction and operation of a design pilot for brackish groundwater desalination in San Dieguito Valley. Neither USEPA's *Environmental Justice Screening and Mapping Tool* nor DWR's *Disadvantaged Communities Mapping Tool* identify environmental justice or disadvantaged communities within the Study Area. The Project site is not located adjacent to a DAC or SDAC. Therefore, construction and operation of the Project would not generate significant air quality, traffic, noise, or aesthetic impacts within proximity to DACs or SDACs. There would be no impact.

3.20 Mandatory Findings of Significance

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
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 cumulative considerable? ("Cumulative considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

a) Less Than Significant with Mitigation

With implementation of mitigation measures, the Project would not have the potential to degrade the quality of the environment. Direct impacts on avian species and other protected biological resources from Project construction could result in potentially significant impacts. However, with incorporation of Mitigation Measures BIO-1 through BIO-9, impacts on special-status plant and wildlife species would be reduced to less than significant levels. Additionally,

Mitigation Measure AES-1 requiring low illumination nighttime lighting would also help reduce impacts to adjacent sensitive habitats. There is potential for ground-disturbing activities to uncover previously unrecorded cultural resources. With implementation of Mitigation Measure CUL-1, potential impacts resulting in a substantial adverse change to the significance of historical and/or archeological resources or resulting in the direct or indirect destruction of a unique paleontological resource or site or unique geological feature would be reduced to less-than-significant levels. Ground disturbing activities during construction could result in the discovery of human remains. Implementation of Mitigation Measure CUL-2 would ensure proper procedure would be in place if human remains were unearthed during construction activities. The implementation of this measure would reduce impacts to less-than-significant levels.

b) Less Than Significant Impact

Implementation of the Project would not result in individually limited, but cumulatively considerable significant impacts. All resource topics associated with the Project have been analyzed in accordance with CEQA and the State CEQA Guidelines and were found to pose no impacts, less than significant impacts, or less than significant impacts with mitigation. In addition, taken in sum with other projects in the area, the scale of the proposed project is small and impacts to any environmental resources or issue areas would not be cumulatively considerable.

c) Less Than Significant with Mitigation

With implementation of mitigation measures, the Project would not have the potential to cause substantial adverse effects on human beings. The potential exists for accidents to occur during construction activities and routine operations and maintenance, which could result in the release of hazardous materials into the environment. Mitigation Measure HAZ-1, which requires development of a Hazardous Materials Management Spill Prevention and Control Plan, would reduce this potential impact to a less-than-significant level. The use of spark-producing construction equipment during normal construction activities poses a risk of wildfire. Due to the proximity of the Project site to a designated VHFHSZ, fire safety construction measures shall be required through implementation of Mitigation Measure HAZ-2 to reduce potential impacts. Nighttime construction activities have the potential to affect residences in the Project vicinity. Mitigation Measures NOI-1 and NOI-2, which require sound barriers and noticing to address nighttime construction noise, would reduce noise impacts to a less-than-significant level. Additionally, Mitigation Measure AES-1 requiring low illumination nighttime lighting would also help reduce impacts on adjacent residences.

All resource topics associated with the Project have been analyzed in accordance with CEQA and the State CEQA Guidelines and were found to pose no impacts, less than significant impacts, or less than significant impacts with mitigation. Consequently, the Project would not result in any environmental effects that would cause substantial adverse effects on human beings directly or indirectly.

4. REPORT PREPARATION

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APPENDIX A: CALEEMOD OUTPUT SHEETS

APPENDIX B: BIOLOGICAL RESOURCES ASSESSMENT

APPENDIX C: CULTURAL RESOURCES ASSESSMENT

APPENDIX D: NOISE DATA SHEETS

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