DRAFT

1050-Zone Secondary Feed Pump Station and Transmission Main Project

Initial Study/Mitigated Negative Declaration

February 2022

Prepared for:

Moulton Niguel Water District

Prepared by:

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Abbreviations

2016 AQMP	SCAQMD's 2016 Air Quality Management Plan
BMPs	Best Management Practices
BRTR	Biological Resources Technical Report
CAGN	Coastal California gnatcatcher
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
CARB	California Air Resources Board
CBC	California Standard Building Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
City	City of Laguna Niguel
CNPS	California Native Plant Society
dBA	A-weighted decibel
FTA	Federal Transit Administration
GHG	Greenhouse Gas
IS/MND	Initial Study/Mitigated Negative Declaration
L_{eq}	average noise level
L_{max}	maximum noise level
MLD	Most Likely Descendant
MNWD	Moulton Niguel Water District
NAHC	Native American Heritage Commission
NCCP/HCP	Natural Community Conservation Plan/Habitat Conservation Plan
PRC	Public Resources Code
proposed project	1050-Zone Secondary Feed Pump Station and Transmission Main Project
RMS	Reservoir Management System
SCAQMD	South Coast Air Quality Management District
SWPPP	Storm Water Pollution Prevention Plan
UBC	Uniform Building Code
USFWS	United States Fish and Wildlife Service
VdB	vibration decibel

1.0 INTRODUCTION

1.1 PROJECT TITLE

1050-Zone Secondary Feed Pump Station and Transmission Main Project (proposed project)

1.2 LEAD AGENCY

Moulton Niguel Water District
26161 Gordon Road
Laguna Hills, California 92653

1.3 LEAD AGENCY CONTACT

Alex Thomas
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Moulton Niguel Water District
26161 Gordon Road
Laguna Hills, California 92653
Phone: 949-831-2500
Email: AThomas@mnwd.com

1.4 PROJECT PURPOSE AND NEED

The purpose of the proposed project is to allow for construction and operation of a new pipeline and pump station to allow for a secondary source and added redundancy for Moulton Niguel Water District's (MNWD) 1050 pressure zone. This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared to evaluate the proposed project for potential environmental effects in compliance with the California Environmental Quality Act (CEQA). MNWD is the Lead Agency under CEQA and has the principal responsibility for carrying out or approving a project that may have a significant effect on the environment. This IS/MND has been prepared in anticipation of determining that all potentially significant impacts from implementing the proposed project can be mitigated to less than significant levels. This document has been prepared in accordance with CEQA, Public Resources Code (PRC) Section 21000 et seq., and the State CEQA Guidelines, California Code of Regulations, Title 14, Section 15000 et seq.

1.5 PROJECT LOCATION

The proposed project is in the City of Laguna Niguel (City), Orange County, California (Figure 1). The proposed project would be constructed and operated within and adjacent to Pacific Island Drive.

Project Location

0 1,000 2,000 Feet

(At original document size of 8.5x11)
1:24,000

N

Stantec

Project Location	Prepared by DL on 2020-08-20
	TR by ST on 2020-08-20
Orange County, California	IR by JC on 2020-08-20
Client/Project	184031336

Moulton Niguel Water District
1050-Zone Secondary Feed Pump Station
& Transmission Main
Biological Resources Technical Report

Figure No.
1

Title
Project Location Map

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020.
3. Background: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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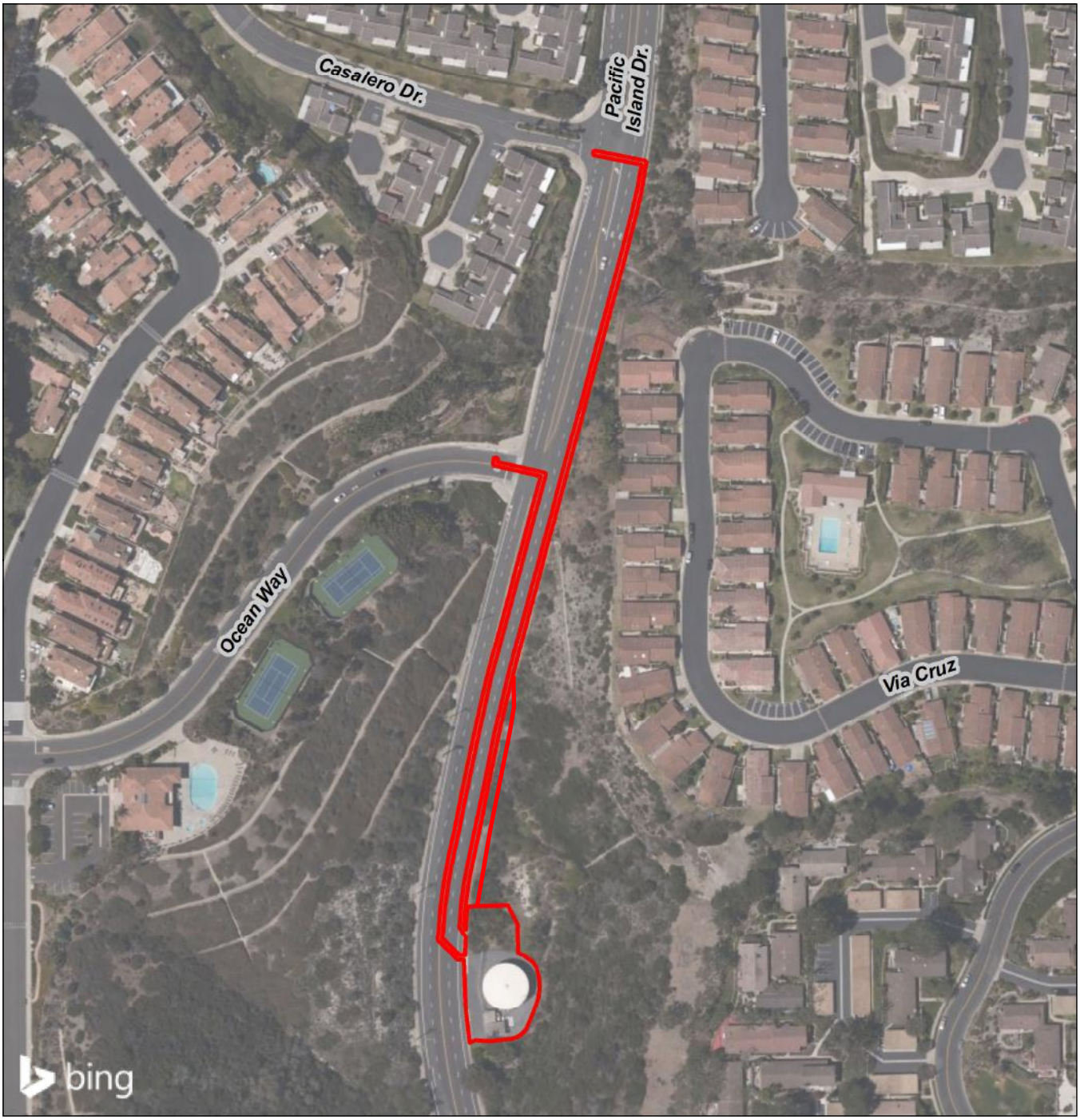

Project Footprint

0 100 200 Feet
(At original document size of 8.5x11)
1:2,400

N

Stantec

Project Location	Prepared by DL on 2020-08-20
	TR by ST on 2020-08-20
Orange County, California	IR by JC on 2020-08-20
Client/Project	184031336

Moulton Niguel Water District
1050-Zone Secondary Feed Pump Station
& Transmission Main

Figure No.
2

Title
Project Footprint

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020.
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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1.6 SURROUNDING LAND USES AND SETTING

The project site is bounded on the north, east, and west by existing resident development and associated infrastructure such as roadways and sidewalks. The southern portion of the project area, including the existing pump station site, is surrounded by low-lying scrub and brush vegetation on the slopes that surround Pacific Island Drive.

1.7 SUMMARY OF PROJECT

The 1050 zone is MNWD's highest potable water zone, serving about 708 residential and irrigation service connections within the City. Currently, the 1050 zone's only source of water is via a single pump station (i.e., Pacific Island Drive Pump Station No. 3). MNWD is seeking to add a secondary source for the 1050 zone to allow for redundancy and continued service during Pacific Island Drive Pump Station No. 3 maintenance or repair. As such, the proposed project would include the installation and operation of a new pump station and approximately 2,000 linear feet of new 12-inch diameter suction and discharge piping (Figure 2). The new pump station would serve as a back up to the existing Pacific Island Drive Pump Station No. 3 and would require expansion of the existing Pacific Island Drive Pump Station No. 2 site to accommodate the proposed secondary feed pump station and associated appurtenances. The expanded pump station site footprint would include: a secondary feed pump station, new transformer, new generator, and space accommodations for a future approximately 15-foot by 25-foot Reservoir Management System (RMS) building (however, installation of this new structure is not included in the proposed project). Grading, vegetation clearing and grubbing, roadway and driveway improvements, fence and gate modifications, and a retaining wall would be required for the pump station site expansion.

1.8 GENERAL PLAN DESIGNATION AND ZONING

The pump station portion of the proposed project site is zoned as "open space district" (Laguna Niguel 2012) and has a General Plan land use designation of "public/institutional" (Laguna Niguel 2020). The remainder of the proposed project would occur within public road right of way.

1.9 CEQA AND AGENCY REVIEW

CEQA requires that project proponents disclose the significant impacts to the environment from proposed development projects. The intent of CEQA is to foster good planning and to consider environmental issues during the planning process. The MNWD is the Lead Agency under CEQA for the preparation of this IS/MND. CEQA Guidelines (Section 21067) define the Lead Agency as: "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment." Approval of the proposed project is considered a public agency discretionary action, and therefore is subject to compliance with CEQA. MNWD has directed the preparation of an analysis to comply with CEQA.

Stantec has prepared this document at the direction of the MNWD. The purpose of this document is to disclose the environmental consequences of implementing the proposed project to decision-makers and the public. The public, residents, and other local and state resource agencies will be given the opportunity to review and comment on this document during a 30-day public-review period. Comments received during the review period will be considered by MNWD prior to certification of this IS/MND and project approval.

The public review period will commence on March 3, 2022 and end on April 4, 2022, pursuant to CEQA Guidelines Section 15105. If you wish to send written comments (including via e-mail), they must be received by 5 p.m. on April 4, 2022. Written comments should be addressed to:

Alex Thomas
26161 Gordon Road
Laguna Hills, California 92653
Phone: 949-831-2500
Email: AThomas@mnwd.com

The IS/MND and supporting documents are available at the Moulton Niguel Water District located at 26161 Gordon Road, Laguna Hills, CA 92653 (Monday through Friday from 8:00 a.m. to 5:00 p.m.), and the Laguna Niguel Library located at 30341 Crown Valley Parkway, Laguna Niguel, CA 92677 (Monday through Thursday from 10:00 a.m. to 7:00 p.m., and Friday through Sunday from 9:00 a.m. to 5:00 p.m.). An electronic copy of the IS/MND is also available online at: https://www.mnwd.com/engineering-notices/

1.10 SCOPE OF THIS INITIAL STUDY

As the Lead Agency under CEQA, MNWD is responsible for compliance with the environmental review process prescribed by the CEQA Guidelines. This IS/MND focuses on the environmental issues identified as potentially significant in the CEQA checklist and by the CEQA Guidelines. This IS/MND evaluates the potentially significant effects on the environment and identifies mitigation measures to mitigate the effects to a point where clearly no significant effect on the environment would occur. A complete Project Description is included in Section 2.0. Evaluations of the CEQA Appendix G checklist questions are analyzed in Section 3.0 and references are included at the end of each resource section.

1.11 DOCUMENT ORGANIZATION

This Draft IS/MND is organized as follows:

Section 1.0: Introduction. This section introduces the proposed project and describes the purpose and organization of this document.

Section 2.0: Project Description. This section describes the purpose and need for the proposed project, identifies the project objectives, and provides a detailed description of the proposed project.

Section 3.0: Environmental Checklist and Environmental Evaluation. This section presents an analysis of the range of environmental issues identified in the CEQA Environmental Checklist and determines whether the proposed project would result in no impact, a less than significant impact, a less than significant impact with mitigation incorporated, or a potentially significant impact for each topic. If impacts are determined to be potentially significant after incorporation of applicable mitigation measures, an Environmental Impact Report would be required. However, for this proposed project, mitigation measures have been incorporated, where needed, that would reduce all potentially significant impacts to a less than significant level.

Section 4.0: List of Preparers. This section identifies the report preparers.

Section 5.0: References. This section lists the references used in preparing this IS/MND.

2.0 PROJECT DESCRIPTION

The proposed project includes the construction and installation of a new pump station and approximately 2,000 linear feet of new 12-inch diameter suction and discharge piping in MNWD's 1050 zone in the City. The new pump station, pipelines, and associated appurtenances would serve as emergency backup for the existing system to allow for continued operations during maintenance or situations where part of the system would need to be offline. The new pump station site would include the following components: new booster pump in a 30- by 35-foot enclosed structure, new transformer, replacement generator, masonry wall, roadway acceleration lane, and extended chain link fence.

2.1 CONSTRUCTION ACTIVITIES AND ESTIMATED SCHEDULE

Construction of the proposed project would occur over approximately 12 months between October-November 2022 and October-November 2023; however, the exact schedule may require adjustments based on variables such as weather or other unforeseen conditions. Access to the proposed project site would occur from Pacific Island Drive, which runs in a north-south direction through the proposed project site. At peak construction periods, an average of 15 truck trips per day are anticipated through access routes. Staging for the proposed project would occur within the existing pump station location and within the existing roadways. Any additional staging areas needed for storage of equipment or materials would be determined by the chosen contractor and would occur on previously disturbed areas. All construction activities are anticipated to occur between the daytime hours of 7 AM and 8 PM, Monday through Saturday, consistent with the City's Municipal Code (Section 6-6-7).

2.1.1 Equipment

The following equipment is anticipated for the installation of the new pipeline and construction of the new pump station and associated appurtenances:

- Trencher
- Excavator
- Paver
- Generator
- Trucks
- Water Truck
- Dump Truck
- Jackhammer
- Vibratory Compactor
- Mobile Crane

2.2 CONSTRUCTION METHODS

Construction of the new pipeline, pump station, and associated appurtenances would occur simultaneously. The trench for the new pipeline is anticipated to occur first and would all occur within the existing Pacific Island Drive right-of-way. Pipeline placement is expected to occur for approximately 60 days. Partial closure of Pacific Island Drive, a small portion of Ocean Way, and Casalero Drive would be required during installation of the pipeline and a traffic control plan, consistent with the City's requirements, would be prepared to allow for adequate flow and control of traffic, pedestrians, and bicyclists through the project site. Generally, pipeline installation would involve setup of traffic control, site preparation and pavement removal, preparation of the pipe, staging of the pipe adjacent to the trench alignment, digging and shoring the trench, placing the pipe in the trench, backfill and compaction in accordance with design and roadway specifications, repaving, and installation of appurtenances such as air and vacuum release

valves or blow-off valves. Placement of the pipeline would consist of open-cut trenching. It is anticipated that trench widths would be approximately 3 to 6 feet in width and an average of 5 feet to 7 feet in depth. Trenches would be backfilled at the end of each workday or would be temporarily closed by covering with steel trench plates if the site cannot be secured by other safety measures such as fencing.

Construction of the acceleration lane, curb and gutter, and associated driveway will begin with the limited demolition of the existing pavement and curb and gutter. Clearing and grubbing of shrubs and minor grading is required to expand the existing roadway section approximately 10 feet to the west. Following the establishment of the sub-grade, the roadway aggregate base is placed and compacted. The concrete driveway, curb and gutter can then be formed, poured, and cured before the asphalt concrete course of the roadway is constructed.

Construction of the new pump station and associated appurtenances would begin with grading and site preparation and then excavation. A non-native tree as well as some scrub, brush, and grass vegetation would require removal in the northern and southern portion of the pump station site. Once the area is excavated, the crew would install a structural foundation consisting of concrete, construct the pump house, and install the pumps, motors, and back-up generator. A new chain link fence would be installed on the perimeter of the new pump station, and the exterior of the structure would include architectural treatment that would blend with the existing pump station and associated appurtenances in the area.

2.3 OPERATION

It is anticipated that the proposed project's operation would not be substantially different than current operations, except with addition of increased redundancy for the system should maintenance be required or other activities that would require part of the system to go offline. There would be no increase in capacity or maintenance needs for the proposed project. No new employees would be required for operation of the proposed project. A larger transformer and emergency generator would be added to replace the existing transformer and generator set. All new equipment would be installed in compliance with Title 24, Part 6, California Code of Regulations, emergency efficiency requirements. Ongoing maintenance of the system would continue to be the responsibility of MNWD.

3.0 ENVIRONMENTAL CHECKLIST

3.1 AESTHETICS

AESTHETICS Would the Project:	Potentially Significant Impact	Less than Significant Impact 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) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public Views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Discussion

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

Finding: Less Than Significant Impact

Although the City's General Plan has not designated any scenic vistas, the City's General Plan has designated Pacific Island Drive as a "landscape corridor" and scenic highway (Laguna Niguel 1992). According to the City's General Plan, a landscape corridor provides a pleasant driving environment, as well as community enhancement to the City, and development within the corridor should serve as a complement to the corridor (Laguna Niguel 1992). Additionally, the City's Hillside Protection Ordinance, which is included in Municipal Code Section 9-1-8, includes regulations to ensure any permitted hillside development conforms to the natural topography and the visual impacts of grading activities are softened by incorporating slope undulation, blending, and other features to reflect the natural terrain of the area.

The proposed project would involve construction activities within Pacific Island Drive as well as permanent above-ground features associated with the new pump station. Construction activities would occur over a 12-month period, and once constructed, the new pipeline within Pacific Island Drive would be located underground and would not substantially affect any scenic views or hillsides in the area. The new pump station would be located adjacent to the existing pump station and associated appurtenances and would blend with the existing environment in this area.

Figures 3 and 4 show the existing pump station site and a rendering of what the new pump station and associated appurtenances would look like in the area.

Figure 3 Pump Station Site (Before Proposed Project)

Figure 4 Rendering of Pump Station Site (After Proposed Project)

As shown on Figure 4, the proposed project would blend with the existing views in the area and would result in a negligible change of views when compared to existing conditions. Therefore, the proposed project's result would have a less than significant impact related to scenic vistas, scenic corridors, and hillsides in the area.

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

Finding: Less Than Significant Impact

Although there are no state-designated scenic highways within viewing distance of the proposed project, the City's General Plan designates Pacific Island Drive as a "landscape corridor" and scenic highway (Caltrans 2020; Laguna Niguel 1992). According to the City's General Plan, a landscape corridor provides a pleasant driving environment, as well as community enhancement to the City and development within the corridor should serve as a complement to the corridor (Laguna Niguel 1992). As discussed under item 'a' above, the proposed project would largely be located underground, and the new pump station would be located adjacent to the existing pump station and would blend with the existing environment in this area. Therefore, the proposed project would result in a less than significant impact related to degradation of scenic resources within the City's designation landscape corridor.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Finding: Less than Significant Impact

The proposed project is located in an urbanized area and surrounding land uses include residential development and associated infrastructure such as roadways and sidewalks. The area directly surrounding the pump station site includes low-lying scrub vegetation and steep slopes directly adjacent to Pacific Island Drive. Views of construction activities would be visible to residents, motorists, pedestrians, and bicyclists from Pacific Island Drive and small portion of Casalero Drive and Ocean Way. Construction activities would occur over a 12-month period and would involve visual obstructions to the area from the use of equipment and vehicles. However, this would be a temporary disruption, and once constructed, the majority of the proposed project (i.e., the new pipeline) would be located underground and would not be visible. As shown in Figure 3, the new pump station and associated appurtenances would be located adjacent to the existing pump station and would blend with the existing environment in the area. Views of the pump station site are limited to a few residences that face the ridgeline on both sides of Pacific Island Drive as well as passing motorists, pedestrians, and bicyclists on Pacific Island Drive. The viewers would not be substantially affected by the new pump station because it would blend with the existing pump station site and would become a negligible change when compared with existing conditions. Further, all architectural coatings, lighting, and fencing would comply the City's Municipal Code requirements (i.e., Section 9-135.15, Outdoor lighting, Section 9-1-35.2, Fences and walls, Section 9-1-33.6, Setbacks from slopes, and Section 9-1.33.3, Roof and wall protections), and as such, the proposed project would not conflict with applicable zoning or other regulations governing scenic quality in the area. Therefore, there would be a less than significant impact to the existing visual character of the site and its surroundings.

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

Finding: Less than Significant Impact

Construction of the proposed project is not anticipated to involve any nighttime work and therefore, there would be no construction impacts related to creation of new sources of substantial light or glare that could adversely affect nighttime views in the area.

Operationally, the new pump station would include new lighting for security and maintenance purposes, and as such would increase lighting at the project site compared to existing conditions. However, the proposed project would be required to comply with all exterior lighting requirements of the City's Municipal Code Section 9-1-35.15, Outdoor Lighting, which requires exterior lighting to be designed and located to minimize spillover of light or glare onto neighboring properties. Conformance with the City's Municipal Code Section 9-1-35.15 would reduce the proposed project's operational lighting impacts to less than significant.

3.2 AGRICULTURE AND FORESTRY RESOURCES

AGRICULTURE AND FORESTRY RESOURCES Would the Project:	Potentially Significant Impact	Less than Significant Impact 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 Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 Discussion

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

Finding: No Impact

The proposed project is located in the City of Laguna Niguel in an area designated as “other land and urban and built-up land” pursuant to the Farmland Mapping and Monitoring Program of the California Department of Conservation (2018). Therefore, the proposed project would not convert any land designated as prime farmland, unique farmland, or farmland of statewide importance to nonagricultural use. There would be no impact.

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

Finding: No Impact

The proposed project site is not located within or adjacent to a Williamson Act contract site (California Department of Conservation 2018; Laguna Niguel 1992). Therefore, the proposed project would not conflict with an existing zoning designation for agricultural use or a Williamson Act contract, and there would be no impact.

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

Finding: No Impact

The proposed project site is zoned as "open space district" (Laguna Niguel 2012), which is intended to identify areas for passive recreation, visual enhancement, and resource conservation (Laguna Niguel Municipal Code Section 9-1-50.2). There is no existing zoning designation for forest land, timberland, or timberland production within the proposed project site; therefore, there would be no impact.

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

Finding: No Impact

PRC Section 1220(g) defines "forest land" as land that can support 10-percent native tree cover of any species. Proposed project construction and operation would occur within public road rights-of-way and within previously disturbed areas in the existing pump station site, which does not meet the definition of forest land. Therefore, there would be no impact related to loss of forest land as a result of implementation of the proposed project.

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

Finding: No Impact

As discussed above in items 'a)' through 'd)', the proposed project would not have an effect on farmland nor would it convert any farmland or forest land to non-agricultural or non-forest use. Therefore, there would be no impact on the conversion of farmland to nonagricultural use or conversion of forest land to non-forest use.

3.3 AIR QUALITY

AIR QUALITY Would the Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒

3.3.1 Discussion

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

Finding: No Impact

The proposed project site is located within the South Coast Air Basin and is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD), the California Air Resources Board (CARB), and the United States Environmental Protection Agency. Consistency with the SCAQMD's 2016 Air Quality Management Plan for the South Coast Air Basin (2016 AQMP) means that a project is consistent with the goals, objectives, and assumptions set forth in the 2016 AQMP that are designed to achieve federal and state air quality standards. Additionally, in order to be consistent with the 2016 AQMP, the pollutants emitted from a project should not exceed the SCAQMD daily thresholds or cause a significant impact on air quality. Daily thresholds are set forth in SCAQMD's CEQA Air Quality Handbook. Table 1 lists these daily thresholds for both construction and operational emissions.

Table 1: South Coast Air Quality Significance Thresholds

Pollutant	Construction (pounds/day)	Operation (pounds/day)
NO_X	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550

Source: SCAQMD 2019
Notes:

CO = carbon monoxide
NOx = oxides of nitrogen
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
PM_{10} = particulate matter less than 10 microns in diameter
SOx = Oxides of Sulfur
VOC = Volatile Organic Compounds

Regulations, policies, and standards in the City's General Plan and the 2016 AQMP and that are required by the SCAQMD are developed to ensure the protection of air quality including encouraging the use of green building technologies and cleaner fuels. The proposed project would not have an impact on the type, size, or location of transportation infrastructure in the long-term that would result in long-term air quality impacts. The construction and operation of the proposed project is not anticipated to exceed the SCAQMD's daily emissions thresholds (i.e., emissions thresholds in Table 1) and therefore, would not conflict with nor obstruct the implementation of the regional air quality goals. As such, no impact would occur to the local or regional air quality or congestion management plans.

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

Finding: Less than Significant Impact

Construction air quality impacts may occur during excavation, site preparation, and pipeline and pump station installation activities associated with the proposed project. Primary sources of emissions during construction would include exhaust emissions and fugitive dust generated because of soil and material disturbance during site preparation and paving activities. Proposed project construction may temporarily raise localized ambient pollutant concentrations due to the emission of air pollutants from internal combustion engines associated with construction equipment. However, emissions from construction would not be expected to exceed thresholds of significance presented in Table 1 under question 'a' above, violate any air quality standard, or contribute substantially to an existing or projected air quality violation because of the limited amount of construction equipment required and the temporary nature of the construction period. No increase in emissions would occur during operation of the proposed project. Specifically, the emergency generator that would be installed for the proposed project would consist of a replacement of an existing emergency generator, and although the new generator would be double the size of the existing generator, it would comply with the SCAQMD requirements and would only run during testing and emergency periods. Therefore, there would be no increases in air quality emissions from this emergency generator. Additionally, although no significant impacts are anticipated, MNDW and the chosen contractor would comply with the following SCAQMD's rules:

- **Rule 403-Fugitive Dust Control Measures**, required by SCAQMD, which requires reasonable precautions to be taken to prevent visible particulate matter from being airborne, under normal wind conditions, beyond the property from which the emission originates. Reasonable precautions include but are not limited to the following:
    - Application of water on dirt roads,
    - Material stockpiles, and other surfaces that can give rise to airborne dust; and

  - Maintenance of roadways in a clean condition.

- **Rule 402 Measures,** required by SCAQMD, which prohibit the discharge from any source whatsoever, such quantities of air contaminant or other materials that cause injury, detriment, nuisance, or annoyance to any number of persons or to the public or which endanger the comfort, repose, health, or safety of any such persons or the public or that cause or have a natural tendency to cause injury or damage to business or property.

The proposed project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation, and impacts would be less than significant.

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

Finding: Less than Significant Impact

The nearest sensitive receptors to the proposed project site include residences within 50 feet of the proposed new pipeline located adjacent to Pacific Island Drive, Casalero Drive, and Ocean Way. Residents in these areas may be temporarily exposed to construction emissions during intermittent periods over the approximately 12-month construction period. Additionally, residences located uphill of the pump station site would be located within approximately 300 feet of construction activities associated with the new pump station and may be temporarily exposed to construction emissions. However, because proposed project construction activities would be temporary and would comply with all local and state regulations pertaining to limiting air quality impacts (i.e., regular watering of soils, limiting idling times of construction equipment, and ensuring that construction equipment is maintained in good working order), potential impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be less than significant. Further, health impacts from pollutant exposure are modeled over several decades, and thus there is no known accepted methodology for determining health impacts from short-term construction exposure. However, because the proposed project would not result in the significant emissions of any pollutant of concern, it can be inferred that there would be no significant impact to sensitive receptors as a result of short-term exposure. Therefore, impacts from proposed project construction on human health would be less than significant.

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

Finding: No Impact

Other than construction vehicle operation, no activities are anticipated to occur and no materials or chemicals would be stored on-site that would have the potential to cause odor impacts during the construction of the proposed project. No odors would be anticipated from the construction of the pipeline nor during operation. Therefore, construction and operation of the proposed project is anticipated to have no odor or other emissions impacts.

3.4 BIOLOGICAL RESOURCES

BIOLOGICAL RESOURCES **Would the Project:**	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
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 regulated by the California Department of Fish and Wildlife 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 Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

3.4.1 Discussion

A Biological Resources Technical Report (BRTR) was prepared for the proposed project and is included in Appendix A (Stantec 2021). Refer to that report for a presentation of existing biological resource conditions in the proposed project site and regulatory setting related to biological resources.

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

Finding: Less than Significant Impact with Mitigation Incorporation

Species listed in local or regional plans, policies, or regulations or regulated by the California Department of Fish and Wildlife (CDFW) or the United States Fish and Wildlife Service (USFWS) are called special-status species. Special-status species within the proposed project site were identified by a desktop query of local general plans, California Native Plant Society (CNPS), CDFW, and USFWS lists and databases to identify a list of species known to occur within the proposed project region. These desktop searches were developed and documented in the BRTR. That query was then refined by further research and reconnaissance-level biological field surveys to identify habitats that support special-status species and the species themselves that could occur on or around the proposed project site where they could potentially be adversely impacted by proposed project construction or operation. The special-status species query identified 30 special-status plant species and 39 wildlife species with the potential to occur within the region surrounding the proposed project site (Appendix A).

A reconnaissance-level biological field survey occurred on September 17, 2020, with the biologist walking meandering transects of the proposed project site. The survey classified habitats on site to assess the suitability for the special-status species identified during the desktop query. Section 5.0 of Appendix A contains the results of the special-status species query and includes the habitat suitability ratings that establish the queried special-status species' potential to occur on or around the proposed project site. Species identified with potential to occur and to be potentially impacted by the proposed project are further discussed and potential impacts are analyzed in the subheadings below.

The proposed project has the greatest potential to have a substantial adverse effect on species with a moderate or high potential to occur on the proposed project site (i.e., as determined by high habitat suitability or by the species' variable range and mobility). While the potential for adverse effects on species with low or nil/no potential to occur is possible, it is unlikely due to limited or no suitable habitat or a species' limited mobility from a nearby occurrence to reach the proposed project site. The potential impacts to species with a moderate or high potential to occur are discussed in the following sections.

3.4.1.1 Impacts to Special-status Plant Species

The BRTR identified most of the proposed project site as disturbed and/or already developed. Since the proposed project site does not include any native vegetation, no special-status plants are likely to occur in the proposed project site. Based on CDFW online data, 30 special-status plant species were identified as occurring within 10 miles of the proposed project site (CDFW 2018).

Special-status plants are not likely to occur in the proposed project site; therefore, no impacts to special-status plant species would occur.

3.4.1.1 Impacts to Special-status Wildlife Species

The BRTR identified most of the area around the proposed project site as disturbed and/or already developed; therefore, special-status species with the highest potential to occur are species who habituate in disturbed areas with frequent human disturbance and management or with the mobility to easily change location. Of the 39 special-status wildlife species identified during the desktop query, the following 11 special-status wildlife species have a moderate to high potential to occur within or in the vicinity of the proposed project site:

- Crotch's bumble bee (*Bombus crotchii)*
- monarch butterfly – California overwintering population (*Danaus plexippus*)
- Southern California legless lizard (*Anniella stebbinsi*)
- coastal whiptail (*Aspidoscelis tigris stejnegeri*)
- red-diamond rattlesnake (*Crotalus ruber*)
- Cooper's hawk (*Accipiter cooperii*)
- Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens)*
- coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*)
- coastal California gnatcatcher (CAGN) (*Polioptila californica californica*)
- Dulzura pocket mouse (*Chaetodipus californicus femoralis*)
- San Diego desert woodrat (*Neotoma lepida intermedia)*

As previously discussed, the proposed project site is highly developed and surrounded largely by existing residences and highly travelled roads; therefore, most of the species listed above would be unlikely to occur within the areas adjacent to Pacific Island Drive and the pump station site. However, nesting resident and migratory bird species, including the CAGN could occur in areas adjacent to the proposed project site due to their ability to occupy large distances and due to the suitable habitat in the area. Therefore, these species are discussed in further detail below.

Nesting Migratory Birds and Raptors

Impacts to migratory birds are regulated under the Migratory Bird Treaty Act and Fish and Game Code Sections 3503, 3503.5, and 3800. Suitable habitat for migratory birds and raptors exists within and adjacent to the proposed project area providing a moderate high potential of occurrence for birds protected under the Migratory Bird Treaty Act and Fish and Game Code to nest within the proposed project site and areas immediately adjacent. Special-status bird species that have the potential to nest and/or forage within or adjacent to the proposed project site may include Cooper's hawk, southern California rufous-crowned sparrow, coastal cactus wren, and CAGN.

Although direct impacts from the proposed project activities on biological resources would be limited to the footprint of the new pump station facilities, activities during the nesting season (approximately February 15 through August 31 for most species for this region) have the potential to cause indirect impacts to birds from temporary habitat loss or disturbance that could result in nest failure. Any disturbance resulting in nest abandonment, the loss of eggs, or direct mortality to a nesting bird would be considered a significant impact. However, the implementation of Mitigation Measure BIO-1, Avoid Disturbance to Nesting Raptors and Other Migratory Birds, would ensure that protected bird species are identified and appropriately avoided by scheduling disturbance activities during non-nesting season or implementing other prescribed avoidance measures that would reduce the potential significance of any potential impact. Therefore, with the implementation of Mitigation Measure BIO-1, Avoid Disturbance to Nesting Raptors and Other Migratory Birds, potential impacts to nesting migratory birds or raptors would be reduced to a less than significant level.

Coastal California Gnatcatcher

Habitat adjacent to the project site has the potential to support CAGN. Therefore, to evaluate the presence of CAGN on site, focused protocol surveys were conducted between September 11, 2020, and January 16, 2021. According to the results of the CAGN protocol survey, no CAGN's were found to occur on or adjacent to the proposed project site (Pax Environmental 2021, Appendix A). Although no CAGN were observed on site during the protocol level surveys, the species still has the potential to occur in the proposed project site and the surrounding area during construction activities, and therefore, similar to the migratory bird discussion above, Mitigation Measure BIO-1 would be required to ensure that pre-construction surveys are conducted; any migratory birds or raptors, including CAGN, are documented and avoided; and appropriate consultation with USFWS is conducted prior to any earth-moving activities in the area if active nests are discovered within the buffer zone. Implementation of Mitigation Measure BIO-1 would reduce any potential impacts to CAGN to a less than significant level.

Mitigation Measures

Mitigation Measure BIO-1: Avoid Disturbance to Nesting Raptors and Other Migratory Birds

To the extent feasible, vegetation removal activities shall be conducted during the non-nesting season (September 1 to February 14). If vegetation removal and/or construction including any ground-disturbing activities that have the potential to disturb nesting birds occur during the nesting season (February 15 to August 31), a qualified biologist shall conduct a pre-construction nesting birds survey prior to vegetation removal or ground-disturbing activities with the following criteria:

- Surveys shall be conducted within the proposed project site and all potential nesting habitat for avian species within 300 feet. For federally or State-listed species (e.g., CAGN) and raptor species, the survey area shall be expanded to a 500-foot buffer of the proposed project site.
- If a federally listed species' nest is observed within the 500-foot buffer, USFWS shall be notified.
- The surveys should be conducted within 3 days of the initiation of construction activities at any time between February 15 and August 31. If no active nests are detected, then no additional measures would be required.
- If surveys indicate the presence of an active nest, construction activities shall stay outside of a 300-foot buffer around the active nest. For federally or State- listed species and raptor species, this buffer shall be 500 feet. A biological monitor shall be present to delineate the boundaries of the buffer area and to monitor the active nest until the young have successfully fledged or the nest has been abandoned.
- Results of the pre-construction survey and any subsequent monitoring shall be provided to the USFWS if a federally listed species is observed during the survey.
- If smaller nest buffer is warranted, the biologist shall consult with the appropriate regulatory agency regarding appropriate protection measures and establish an appropriate exclusion zone around the nest in which no work would be allowed until the young have successfully fledged or the nest has been abandoned. The size of the exclusion zone shall depend on the status of the species present, the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, other topographical or artificial barriers, and the sensitivity of the nesting bird to the disturbance. In general, exclusion zones of up to 500 feet for listed species and raptors and 50 to 300 feet for passerines should be sufficient to prevent substantial disturbance to nesting birds.

- If nesting birds are documented to have established themselves in a given location within the proposed project site during pre-existing construction activities, then it shall be assumed that the nesting birds are habituated to the construction activities. Under this scenario, the active nest shall be monitored by a qualified biologist periodically until the young have successfully fledged or the nest has been abandoned, as described above.

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

Finding: Less than Significant Impact

The desktop review and field surveys primarily revealed disturbed, ruderal, and non-native vegetation communities within the proposed project site and determined that there is no riparian habitat present. Additionally, the proposed project would not have an impact on other sensitive biological communities such as native grassland. The proposed project would not cause changes to habitat value and species composition, cause habitat fragmentation, remove understory, alter drainage patterns, disrupt the tree canopy, or disrupt animal movement through a woodland. Therefore, there would be a less than significant impact on riparian habitat or other sensitive natural communities.

The proposed project would not involve the direct removal of riparian vegetation, disruption of riparian wildlife habitat (animal dispersal corridors and/or understory vegetation), intrusion within the upland edge of the riparian canopy, disruption of animal migration or breeding, or the disruption of a substantial amount of adjacent upland vegetation where such vegetation plays a critical role in riparian-dependent wildlife species or where such vegetation aids in stabilizing steep slopes adjacent to the riparian corridor, and construction of the proposed project would not disrupt critical time periods for nesting and breeding fish or other wildlife species.

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

Finding: No Impact

The proposed project would be located within the existing footprint of Pacific Island Drive and adjacent to the existing pump station site. Areas adjacent to the proposed project site include upland scrub and brush vegetation and do not contain any riparian habitats. There are no federally or state protected wetlands within the proposed project site and therefore, there would be no impact to federally protected wetlands.

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

Finding: Less than Significant Impact

Wildlife movement corridors have been recognized by federal agencies and CDFW as important habitats worthy of conservation. Wildlife movement corridors provide seasonal migration between winter and summer habitats and provide non-migrant wildlife movement within their home range for food, cover, and reproduction. The surrounding lands adjacent to the proposed project area has the potential to support migratory wildlife species, specifically nesting

migratory bird species. However, with the temporary disturbance and small size of the proposed project and its location being primarily in disturbed and/or developed areas, less than significant impacts are expected to occur Therefore, the proposed project would not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors.

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

Finding: No Impact

The proposed project includes plans for non-native tree removal, and the City does not have a tree ordinance. Therefore, there would be no impact.

f) Would the project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan?

Finding: Less than Significant Impact

The proposed project site is in an area classified as “Non-Reserve Open Space” under the *County of Orange Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan* (NCCP/HCP) (Data Basin 2020; County of Orange 1996). Non-Reserve Open Space Areas are made up of areas that are not considered to have suitable critical habitat or “Target Species”, as identified within the NCCP/HCP. “Take” under the NCCP/HCP Implementation Agreement is defined as Incidental Take pursuant to the federal Endangered Species Act and includes harm, harassment, modification of habitat, and any other activity prohibited or otherwise limited. Take in areas within the NCCP/HCP boundaries is not authorized. However, because the prosed project site is not located within an Existing Use or Reserve Area, and because the proposed project would not result in any impacts to special-status species, payment of mitigation fees per the NCCP/HCP Implementation Agreement is not applicable to the proposed project. Therefore, the proposed project would result in a less than significant impact related to provisions of the NCCP/HCP that governs the area.

3.5 CULTURAL RESOURCES

CULTURAL Would the Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

3.5.1 Discussion

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

Finding: No Impact

No historic structures are located within the proposed project site. The pipeline alignment is not within the vicinity of any of the historic neighborhoods, nationally registered buildings, or significant historic buildings mentioned within the City's General Plan. Therefore, the proposed project would have no impact upon a historical resource.

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

Finding: Less Than Significant Impact

The proposed project site is located within a previously disturbed urban area. Due to the location of the proposed pipeline alignment in previously disturbed areas, it is unlikely that any significant archaeological resources would be encountered. The City's General Plan states the need to preserve and protect archaeological resources within the goals and policies of the Open Space, Parks, and Conservation Element. A Cultural Resources Report Survey (see Appendix B) was conducted for the project and included a records search and pedestrian survey by a qualified archaeologist. The survey did not identify any cultural resources within the proposed project site. However, seven cultural resources were identified within the one-mile search radius buffer. A Sacred Lands File search was requested from the Native American Heritage Commission (NAHC) Sacred Lands File sear. The search (see Appendix B) did not indicate the presence of any Native American cultural resources within the proposed project area and identified individuals who may have an association or interest in the area. Letters were sent to these individuals with an invitation to consult under AB 52. If any archaeological resources are encountered during construction or excavation activities, all work within 25 feet of the find will be halted near the archaeological discovery until a qualified archaeologist can assess the significance of the archaeological resource. Therefore, the proposed project would have a less than significant impact on the significance of an archaeological resource. For additional details related to tribal cultural resources, see Section 3.18 Tribal Cultural Resources.

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

Finding: Less Than Significant Impact

Due to the level of disturbance in the site vicinity, it is not anticipated that human remains, including those interred outside of formal cemeteries, would be encountered during earth removal or ground-disturbing activities. Nonetheless, if human remains are found, those remains would require proper treatment in accordance with applicable laws. State of California Public Resources Health and Safety Code Sections 7050.5 through 7055 describe the general provisions for human remains. Specifically, State Health and Safety Code Section 7050.5 requires that if any human remains are accidentally discovered during the excavation of a site, the County Coroner shall be notified of the find immediately, and no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. As required by state law, if the remains are determined to be Native American, the County Coroner shall notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or their authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC and shall have the opportunity to offer recommendations for the disposition of the remains. Following compliance with the aforementioned regulations, impacts related to the disturbance of human remains would be less than significant.

3.6 ENERGY RESOURCES

ENERGY RESOURCES Would the Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

3.6.1 Discussion

a, b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency or result in significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Finding: Less than Significant Impact

The City of Laguna Niguel and the Moulton Niguel Water District do not have an adopted renewable energy or energy efficiency plan. State and local plans for renewable energy and energy efficiency include the California Public Utilities Commission's Energy Efficiency Strategic Plan, the Title 24 standards and the California Green Building Code (CALGreen) standards. The proposed project would be required to comply with Title 24 and CALGreen standards. Compliance with Title 24 standards and CALGreen standards would ensure the proposed project incorporates energy efficient insulation, lighting and ventilation systems. Adherence to California Public Utilities Commission's energy requirements would ensure conformance with the state's goal of promoting energy and lighting efficiency. Further, the proposed secondary feed pump station would only run when the PID3 pump station is not running and as such, would not result in substantial increases in energy consumption beyond what currently exists on-site. Therefore, operation of the proposed project would not conflict with or obstruct state or local plans or result in wasteful, inefficient, or unnecessary consumption of energy resources. Construction and operation of the proposed project would therefore be less than significant.

3.7 GEOLOGY AND SOILS

GEOLOGY AND SOILS Would the Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Directly or indirectly cause 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 strata or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐

3.7.1 Discussion

a) Would the project directly or indirectly cause 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?

Finding: Less Than Significant Impact

There are no earthquake fault zones, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, in the proposed project site (California Department of Conservation 2020a; Leighton Consulting, Inc. 2020). Additionally, there are no active fault zones directly within or adjacent to the proposed project site (California Department of Conservation 2020b). The nearest fault is the Newport-Inglewood-Rose Canyon fault zone, which is located approximately 3 miles to the west of the proposed project area in the Pacific Ocean.

The proposed project would be constructed in accordance with current design standards and codes, including the Uniform Building Code (UBC), the California Standard Building Code (CBC), the City's Municipal Code, and the recommendations of the Geotechnical Exploration Report prepared by Leighton Consulting, Inc. (Leighton Consulting, Inc. 2020). Additionally, per these code requirements, the final proposed project plans would be required to be stamped by a licensed civil and/or structural engineer, which would certify the implementation of structural standards that account for seismic hazards and would limit the potential for placing people or infrastructure at risk of structural failure from earthquakes and the associated ground shaking, ground failure, and landslides that could occur. Therefore, potential impacts related to risk of loss, injury, or death from rupture of a known earthquake fault, strong seismic ground shaking, ground failure, or landslides would be less than significant.

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

Finding: Less Than Significant Impact

As the proposed project would disturb less than 1 acre of soil, the proposed project would not be subject to the requirements of the National Pollutant Discharge Elimination System Construction General Permit, which would require preparation of a Storm Water Pollution Prevention Plan (SWPPP) for approval by the San Diego Regional Water Quality Control Board prior to construction. However, Municipal Code Section 8-1-836, Erosion Control Plan, requires erosion control plans to be prepared in accordance with the City's Grading Manual prior to issuance of grading permits. Thus, following conformance with the Municipal Code requirements, impacts concerning substantial soil erosion and loss of topsoil would be less than significant.

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

Finding: Less Than Significant Impact

Landslides

Any slope where relatively large masses of material are supported by soil that is likely to soften under strain is prone to a landslide. The risk increases in areas where the ground is steep, weak, or fractured; is saturated by heavy rain; or is compromised by historical ground movements. The proposed project site is located within a Landslide Zone as designated by the California Department of Conservation (California Department of Conservation 2020a); however, the proposed project would be constructed in accordance with current design standards and codes, including the UBC, CBC, the City's Municipal Code, and the recommendations of the Geotechnical Exploration Report prepared by Leighton Consulting, Inc. (Leighton Consulting 2020). Additionally, per these code requirements, the final proposed

project plans would be required be stamped by a licensed civil and/or structural engineer that would certify the implementation of structural standards that account for landslides in the area and limit the potential for placing the new pump station at risk of structural failure from these activities. Therefore, there would be a less than significant impact related to landslides.

Lateral Movement and Spreading

Lateral movement (i.e., displacement, spreading, etc.) occurs when seismic shaking causes a mass of soil to lose cohesion and move relative to the surrounding soil. Lateral movement can be entirely horizontal and can occur on flat ground, but it is more likely to occur on or around sloping ground, such as adjacent to hillsides and waterways. The proposed project area is located adjacent to a slope; however, the proposed project would be constructed in accordance with current design standards and codes, including the UBC, CBC, the City's Municipal Code, and the recommendations of the Geotechnical Exploration Report prepared by Leighton Consulting, Inc. (Leighton Consulting 2020). Additionally, per these code requirements, the final proposed project plans would be required be stamped by a licensed civil and/or structural engineer that would certify the implementation of structural standards that account for lateral spreading and limit the potential for placing people or infrastructure at risk of structural failure from these activities. Therefore, there would be a less than significant impact related to lateral movement and spreading.

Liquefaction

Soil liquefaction occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid, thus becoming similar to quicksand. Factors determining the liquefaction potential are soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands and peat deposits, along with recent Holocene age deposits, are more susceptible to liquefaction, while older deposits of clayey silts, silty clays, and clays deposited in freshwater environments are generally stable under the influence of seismic ground shaking. The primary factors affecting liquefaction include the following: 1) intensity and duration of seismic ground shaking; 2) soil type; 3) relative density of granular soils; 4) moisture contact and plasticity of fine-grained soils; 5) overburden pressure; and 6) depth to groundwater.

The proposed project site is not located within a Liquefaction Zone, as delineated by the California Department of Conservation (California Department of Conservation 2020a; Leighton Consulting 2020). Therefore, there would be no impact related to liquefaction of soils for the proposed project.

Subsidence

Subsidence is caused by declining groundwater tables, which in turn causes soils to sink down into the space that was previously occupied by groundwater. The proposed project would not involve pumping groundwater or settlement of foundations as a result of proposed project implementation. All foundations would be constructed in compliance with the UBC, CBC and City's Municipal Code requirements and would take into consideration the recommendations of the Geotechnical Exploration Report to allow for adequate stability of the site which complies with all federal, state, and local regulations. There would be no impact related to subsidence as a result of implementation of the proposed project.

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

Finding: Less Than Significant Impact

Expansive or collapsible soils are characterized by the ability to undergo significant volume change (e.g., shrink and swell) as a result of variation in soil moisture content. Specifically, the causes of soil expansion or collapse are related to the type and amount of clay minerals in the soil, conditions under which the clay originated, and the original density of the soil. Clay minerals can form in-place by weathering of rocks, or they can be transported and deposited by water or wind. A change in the moisture content of a soil can cause clay minerals to shrink or expand (i.e., swell). Soil moisture content can change due to many factors, including perched groundwater, landscape irrigation, rainfall, and utility leakage. Engineering standards govern expansion potential evaluations and the expansion index. Section 1803.2 of the 1994 UBC directs expansive soil tendency be graded by this method. The UBC mandates that “special [foundation] design consideration” be employed if the expansion index is 20 or greater.

The Geotechnical Exploration Report provides recommendations related to soil and foundation stability, including compacting fill soils to a minimum of 90 percent of the maximum dry density, adding a mat foundation system with footings, and requirements for minimum slab thickness to stabilize the site and allow for structural standards to be met, in accordance with applicable federal, state, and local regulations. The proposed project would comply with all federal, state, and local requirements related to stability of underlying soils and foundations, and the final design plans would be required to be stamped by a licensed structural engineer to assure that these standards are met. Therefore, the proposed project would result in a less than significant impact related to expansive soils.

e) Would the project 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?

Finding: No Impact

The proposed project would not result in the use of septic tanks or alternative waste disposal systems. There would be no impact.

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

Finding: Less than Significant with Mitigation

The proposed project would involve excavation of approximately 2000 feet of pipeline trench. Trench widths would be approximately 3 to 6 feet in width and an average of 5 feet to 7 feet in depth. Although the ground surface is disturbed, areas below the surface will penetrate undisturbed soils. Construction in areas that were previously disturbed are unlikely to encounter significant paleontological resources, however, trench excavations will extend deeper and may encounter undisturbed San Onofre Breccia, a geologic unit that dates to the Miocene and may preserve paleontological resources. Should unique paleontological resources be encountered during Project-related activities, their damage or destruction would constitute an adverse impact under CEQA. Therefore, in order to avoid adverse impacts to paleontological resources, the Project should apply the mitigation measures developed below.

Mitigation Measures

Mitigation Measure PALEO-1: Worker Training

A qualified paleontologist meeting the standards of the Society of Vertebrate Paleontology (SVP) will develop a Worker Environmental Awareness Program (WEAP) training to be delivered to the construction crew by the paleontologist, their designee, or through a pre-recorded video before the onset of ground disturbance. This brief training will explain the legal protection of paleontological resources, what sorts of resources may be encountered in the Project area, steps to follow in the event of a resource discovery, and safety information for working with paleontological monitors.

Mitigation Measure PALEO-2: Paleontological Monitoring

A qualified paleontological monitor working under the supervision of the qualified paleontologist will conduct full-time monitoring of ground disturbance during Project construction. Monitoring will consist of observation of excavation work on native soils and monitoring associated spoil piles. Should subsurface conditions indicate conditions not favorable for the preservation of paleontological resources, the qualified paleontologist may reduce or halt monitoring. At the completion of ground disturbance, the qualified paleontologist will draft a letter report outlining the methods and results of the monitoring program.

Mitigation Measure PALEO-3: Inadvertent Discovery

In the event that paleontological resources are encountered during construction activities, all work must stop in the immediate vicinity of the finds for a safe distance while the paleontological monitor documents the find and the qualified paleontologist assesses the find. Should the qualified paleontologist assess the find as significant, it should be collected and curated in an accredited repository along with all necessary associated data and requisite curation fees.

3.8 GREENHOUSE GASES

GREENHOUSE GAS EMISSIONS Would the Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

3.8.1 Discussion

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

Finding: Less than Significant Impact

Assembly Bill 32 was established by CARB to provide statewide greenhouse gas (GHG) emissions cap for 2020, adopt mandatory reporting rules for significant sources of GHG, and adopt comprehensive Climate Action Scoping Plans to help identify how emission reductions will be achieved. Assembly Bill 32 was then amended by Senate Bill 32 on September 16, 2016, which further required that statewide GHG emissions are reduced to 40 percent below the 1990 level by the year 2030 (CARB 2018). The City has not adopted a numerical significance threshold for assessing impacts related to GHG emissions, nor have the SCAQMD, CARB, or any other state or regional agency adopted a numerical significance threshold for assessing GHG emissions that is applicable to the proposed project. Since there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the proposed project's impacts related to GHG emissions focuses on its consistency with statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This evaluation of consistency with such plans is the sole basis for determining the significance of the proposed project's GHG impacts on the environment.

The 2017 Scoping Plan approved by CARB in December 2017 includes GHG reduction measures necessary to achieve the 2030 target. Table 2 summarizes the proposed project's consistency with the applicable policies and measures of the 2017 Scoping Plan.

Table 2: Proposed Project Consistency With the 2017 Scoping Plan

Sector/Source	Category/Description	Consistency Analysis
California Renewables Portfolio Standard, Senate Bill 350 (SB 350) and Senate Bill 100 (SB 100)	Increases the proportion of electricity from renewable sources to 33 percent renewable power by 2020. SB 350 requires 50 percent by 2030. SB 100 requires 44 percent by 2024, 52 percent by 2027, and 60 percent by 2030. It also requires the State Energy	**Consistent**. The proposed project would utilize electricity provided by San Diego Gas and Electric, which is required to meet the 2020, 2030, 2045, and 2050 performance standards.

	Resources Conservation and Development Commission to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.	
California Code of Regulations, Title 24, Building Standards Code	Requires compliance with energy efficiency standards for residential and nonresidential buildings.	**Consistent.** The new pump station and associated appurtenances would be required to meet the applicable requirements of the Title 24 Building Energy Efficiency Standards.
Water Conservation Act of 2009 (Senate Bill X7-7)	The Water Conservation Act of 2009 sets an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. Each urban retail water supplier shall develop water use targets to meet this goal. This is an implementing measure of the Water Sector of the AB 32 Scoping Plan. Reduction in water consumption directly reduces the energy necessary and the associated emissions to convey, treat, and distribute the water.	**Consistent.** The proposed project consists of the construction and operation of a new pipeline and pump station to allow for a secondary source and added redundancy for the MNWD's 1050 zone. No residential components are included in this project and the project would not increase capacity of the existing water system.

In summary, the proposed project would be consistent with applicable plans, policies, regulations, and GHG reduction actions and strategies outlined in the 2017 Scoping Plan. Therefore, the proposed project would not result in GHG emissions that could have a significant impact on the environment or conflict with applicable plan, policies, or regulations related to reducing GHG emissions. The impact would be less than significant.

3.9 HAZARDS AND HAZARDOUS MATERIALS

HAZARDS, HAZARDOUS MATERIALS Would the Project:	Potentially Significant Impact	Less than Significant Impact 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 or excessive noise for people residing or working in the Project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

3.9.1 Discussion

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

Finding: Less than Significant Impact

Hazardous materials associated with proposed project construction would be limited to fuels, gasoline, oils, and solvents typically associated with the operation of heavy equipment and machinery over the 12-month construction period for the proposed project. All materials would be routinely transported, used, and disposed of in accordance with any applicable laws, regulations, and protocols that protect the environment, the public, and workers. Compliance with all applicable laws and regulations would reduce the potential impact associated with the routine transport, use, storage, or disposal of hazardous materials to a less than significant level.

Operation of the proposed project would not result in any additional hazardous materials beyond what currently exists in the area that could create a significant hazard to the public or the environment through routine transport, use, or disposal. Therefore, construction and operation of the proposed project would result in a less then significant impact related to creation of a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials.

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

Finding: Less Than Significant Impact

The proposed project would involve the use of limited amounts of hazardous materials, such as gas, diesel fuel, oils, and solvents associated with the operation of construction vehicles and equipment. These materials would be used on the proposed project site for construction equipment maintenance. The amount of these materials needed for equipment maintenance would not be enough to cause a significant hazard to the public if released since the quantity of these hazardous materials on-site at any given time would only amount to a refueling truck and the construction equipment. In addition, all potential accidental spills associated with construction activities would be handled and cleaned in accordance with any applicable laws, regulations, and protocols that protect the environment, the public, and workers and therefore, would result in a less than significant impact related to accidental release of hazardous materials.

Operation of the proposed project would not substantially change from existing conditions associated with maintenance activities of MNWD's system and would not involve release of hazardous materials into the environment. Therefore, operational impacts related to accidental release of hazardous materials into the environment would be less than significant.

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

Finding: Less Than Significant Impact

The Casalero Middle School is located within 0.25 mile of the proposed project site. As discussed under items 'a' and 'b' above, the proposed project would use limited amounts of hazardous materials such as gas, diesel fuel, oils, and solvents associated with the operation of construction vehicles and equipment. All materials would be routinely transported, used, and disposed of in accordance with any applicable laws, regulations, and protocols that protect the environment, the public, and workers. Therefore, the proposed project would have less than significant impacts on existing or proposed schools.

d) Would the project 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?

Finding: No Impact

The proposed project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (SWRCB 2020; DTSC 2020). Therefore, there would be no potential to create a significant hazard to the public or the environment. There are no other known contamination sites within the proposed project site or surrounding area that would be a hazard to the public. Therefore, there would be no impact.

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

Finding: No Impact

There are no airports within 2 miles of the proposed project site. The nearest airport is the John Wayne Airport, which is located approximately 14-miles to the northwest of the proposed project site. There would be no impact.

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

Finding: Less Than Significant Impact

Construction of the proposed project would require the use of vehicles and construction equipment within the public right-of-way of Pacific Island Drive and partially within Casalero Drive and Ocean Way. The proposed project would require partial closure of Pacific Island Drive for an approximately 8-week period, which could temporarily impede access for emergency personnel through the area. However, the proposed project construction activities would comply with all applicable local, state, and federal requirements, including the California Fire Code, which requires means of adequate ingress and egress of construction equipment and personnel as well as emergency personnel through the proposed project site. Therefore, with compliance with applicable federal, state, and local regulations, construction of the proposed project would result in a less than significant impact related to emergency response and evacuation.

Once constructed, the proposed project would be located largely underground, and the new pump station site would be located adjacent to the existing pump station site, which would not result in any potential inference with emergency response or evacuations. Therefore, there would be no operational impacts.

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

Finding: Less Than Significant Impact

The proposed project site is within a Local Responsibility Area that has a very high fire hazard severity zone designation as designated by the California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard

Severity Zone Map (CAL FIRE 2020). Construction of the proposed project would involve the use of construction equipment that could cause the unintentional release of sparks or heat from construction equipment into nearby flammable material, such as brush or grasses. In particular, construction of the new pump station and pipelines adjacent to the undisturbed areas adjacent to Pacific Island Drive in the southern portion of the proposed project site could include construction activities near grasses or other flammable woody vegetation. However, all proposed project construction activities would be constructed in compliance with all applicable local, state, and federal requirements, including the California Fire Code, which limits the potential for construction equipment to spark a wildland or urban fire by requiring the implementation of fire protection systems, means of adequate ingress and egress of construction equipment and personnel, and implementation of fire-resistive construction equipment. Additionally, the majority of construction activities would occur within existing paved rights-of-way and within existing disturbed areas and built-up areas (with concrete and paved areas) where groundcover vegetation is minimal and less prone to flammability. This would limit the potential for construction of proposed project activities to expose people or structures to risks from wildfires. Therefore, construction of the proposed project would have a less than significant impact related to wildland fires.

Once operational, the proposed project would be located largely underground, and the new pump station site would be located adjacent to the existing pump station site which would not result in any potential impacts related to risk of injury or death involving wildland fires. Therefore, there would be no operational impacts.

3.10 HYDROLOGY AND WATER QUALITY

HYDROLOGY AND WATER QUALITY Would the Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i. Result in substantial erosion or siltation on- or off-site; ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv. Impeded or redirect flood flows.	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

3.10.1 Discussion

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

Finding: Less Than Significant Impact

During construction, the potential exists for spills of petroleum, oils, and lubricants from construction equipment to be transported off of the proposed project site during rain events. However, Municipal Code Section 8-1-836, Erosion Control Plan, requires erosion control plans to be prepared in accordance with the City's Grading Manual prior to issuance of grading permits which would limit the potential for spills or lubricants from construction equipment form leaving the site. Thus, although construction of the proposed project has the potential to violate water quality standards during construction, compliance with the City's Municipal Code requirements would control runoff and would limit potential impacts due to erosion and resulting water quality impacts to less than significant levels.

Therefore, with compliance with the City's Municipal Code requirements, construction and operation of the proposed project would result in less than significant impacts related to violation of water quality standards or waste discharge requirements or would otherwise substantially degrade surface or groundwater quality.

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

Finding: No Impact

The proposed project would not result in any substantial increase in impervious surfaces or other activities that would decrease groundwater supplies or interfere substantially with groundwater recharge. Therefore, there would be no impact related to decreases in groundwater supplies or interference with groundwater recharge.

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

i. Result in substantial erosion or siltation on- or off-site;

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv. Impeded or redirect flood flows.

Finding: No Impact

The proposed project would not substantially alter the existing drainage pattern of the proposed project site or the surrounding area. Site topography would be restored to pre-construction conditions at the conclusion of proposed project construction. Therefore, there would be no impact related to erosion, runoff, and flood flows.

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

Finding: Less Than Significant Impact

The proposed project is located approximately 0.85 mile inland from the Pacific Ocean; however, steep topography separates the proposed project site from the Pacific Ocean. According to the California department of Conservation Tsunami Inundation Map, the proposed project is not located within a Tsunami Inundation Area (California Department of Conservation 2020c). Additionally, the proposed project site is not located near any large enough bodies of water to be at risk from inundation by a seiche. However, risk from inundation from flooding could still occur in the proposed project site. The new pipeline would be installed underground and would not be at risk of pollutant release from inundation. The new pump station and associated appurtenances would be located above ground;

however, pollutants from these project components would be limited to diesel fuel used to run the emergency generator, which would not be substantially different than existing conditions in the area. Therefore, the proposed project would not increase the exposure of people or structures to a significant risk of loss as a result of flooding, tsunami, or seiche, and the potential impact would be less than significant.

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

Finding: No Impact

The Water Quality Control Plan for the San Diego Basin designates beneficial uses for water bodies in the San Diego Region and establishes water quality objectives and implementation plans to protect those beneficial uses (California Regional Water Quality Control Board 1994, as amended). As noted above, the proposed project would not result in significant impacts to water quality following implementation of the proposed pipeline and pump station improvements and conformance with the City's Municipal Code that would be required for the proposed project.

The Sustainable Groundwater Management Act requires local public agencies and groundwater sustainability agencies in high- and medium-priority basins to develop and implement groundwater sustainability plans or prepare an alternative to a groundwater sustainability plan. According to the California Department of Water Resources Sustainable Groundwater Management Act Basin Prioritization Dashboard, the proposed project is not underlain by a groundwater basin (California Department of Water Resources 2020). As indicated in item 'b' above, the proposed project would not substantially deplete groundwater supplies or interfere with groundwater recharge. Thus, the proposed project is not anticipated to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan and no impact would occur.

3.11 LAND USE AND PLANNING

LAND USE AND PLANNING Would the Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect	☐	☐	☐	☒

3.11.1 Discussion

a) Would the project physically divide an established community?

Finding: No Impact

The proposed project would consist of a pipeline and pump station improvement project that would be constructed and operated within existing public road rights-of-way and within previously disturbed areas. Once constructed, the new pipeline would be located underground, and the pump station and associated appurtenances would be located within the disturbed area associated with the existing pump station site. The proposed project would not involve any division of existing established communities. There would be no impact.

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

Finding: No Impact

The pump station portion of the proposed project site is zoned as “open space district” (Laguna Niguel 2012) and has a General Plan land use designation of “public/institutional” (Laguna Niguel 2020). The remainder of the proposed project would occur within public road right-of-way. Construction of the proposed project would involve temporary disruptions to traffic in the area; however, this disruption would be intermittent and would last approximately 12 months, and once construction is complete, the disruption would cease. Once operational, the new pipeline would be located underground, and the pump station an associated appurtenance would be located within the disturbed area of the at the existing pump station site. Operational activities associated with the proposed project would be similar to existing conditions and would not substantially hinder or otherwise impact surrounding land uses. Therefore, the proposed project would not conflict with any applicable land-use plan, policy, or regulation of an agency with jurisdiction over the proposed project and would not contradict the planned uses of the land in which the proposed project is set to occur. There would be no impact.

3.12 MINERAL RESOURCES

MINERAL RESOURCES Would the Project:	Potentially Significant Impact	Less than Significant Impact 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?	☐	☐	☐	☒

3.12.1 Discussion

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

Finding: No Impact

Mineral resources are not known to exist in the proposed project site, which is adjacent to residential uses and an urbanized environment that is unsuitable for mineral resource extraction. According to the City's General Plan, no mineral resources have been identified within the City (Laguna Niguel 1992). Therefore, there would be no impact to the loss of availability of a known mineral resource.

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

Finding: No Impact

The proposed project site is located within and directly adjacent to a residential area that is highly developed and is not delineated as mineral reserve area in the City's General Plan (Laguna Niguel 1992). Therefore, there would be no impact to loss of availability of locally important mineral resources.

3.13 NOISE

NOISE Would the Project result in:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels.	☐	☐	☐	☒
c) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

3.13.1 Discussion

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

Finding: Less than Significant Impact

Construction of the proposed project would occur over approximately 12 months and would include trenching and grading, building construction, and architectural coating. Groundborne noise and other types of construction-related noise impacts would typically occur during the grading construction phase and would have the potential to create the highest levels of noise. As such, the grading phase represents the worst-case condition for short-term construction noise levels that may occur at the nearest adjoining noise-sensitive receptors.

Construction noise is difficult to quantify because of the many variables involved, including the specific equipment types, size of equipment used, percentage of time that each piece is in operation, condition of each piece of equipment, and number of pieces that would operate on the site. Construction equipment produce maximum noise levels when equipment is operating under full power conditions (i.e., the equipment engine at maximum speed). However, equipment used on construction sites typically operates under less than full power conditions, or partial power. To characterize construction-period noise levels more accurately, the average noise level (L_{eq}) associated with each construction stage is calculated based on the quantity, type, and usage factors for each type of equipment that would be used during each construction stage. These noise levels are typically associated with multiple pieces of equipment simultaneously operating on partial power. Trenching, grading, building construction, and architectural coating phases would use typical construction equipment, such as graders, excavators, rubber tired dozers, mobile cranes, concrete mixers, pavers, tractors/loaders/backhoes, and plate compactors. The maximum sound level (L_{max})

construction noise levels from the typical construction equipment would vary from approximately 77 A-weighted decibels (dBA) to 85 dBA at a distance of 50 feet (i.e., the approximate distance from the nearest sensitive receptor) (FHWA 2020). Pursuant to the City's Municipal Code Section 6-6-7, construction activities may occur between the hours of 7:00 AM and 8:00 PM on weekdays and Saturdays and are prohibited on Sundays and federal holidays. These permitted hours of construction recognize that construction activities undertaken during daytime hours are a typical part of living in an urban environment and do not cause a significant disruption. Given the sporadic and variable nature of proposed project construction and the implementation of time limits specified in the City's Municipal Code, short-term construction noise impacts would be less than significant.

Operationally, the proposed project would not introduce substantial new noise to the area. The new pump station and generator would be enclosed and would be consistent with the noise sources from the existing pump station and generator. Therefore, there would be no operational impact associated with generation of noise in excess of local standards.

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

Finding: No Impact

Vibration refers to groundborne noise and perceptible motion. Typical sources of groundborne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earth-moving equipment), steel-wheeled trains, and occasional traffic on rough roads. The United States Department of Transportation Federal Transit Administration (FTA) provides guidelines for maximum-acceptable vibration criteria for different types of land uses. These guidelines allow 80 vibration decibels (VdB) for residential uses and buildings where people normally sleep (FTA 2018). Construction activity can result in varying degrees of groundborne vibration depending on the equipment and methods used, distance to the affected structures, and soil type. Construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generate little or no ground vibration. Occasionally large, loaded trucks can cause perceptible vibration levels at close proximity. The FTA guidelines of 80 VdB for sensitive land uses provide the basis for determining the relative significance of potential proposed project-related vibration impacts. The proposed project does not included components to generate excessive vibration. Proposed project construction would not include activities such as blasting or pile driving that would cause excessive ground borne vibration. Therefore, no vibration impacts would occur.

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

Finding: No Impact

The proposed project is not located in the vicinity of any airports. The nearest airport is the John Wayne Airport, which is located approximately 14-miles to the northwest of the proposed project site. There would be no impact. Additionally, the proposed project would not require any permanent on-site employees to operate the system and therefore, would not expose any workers to noise. Therefore, there would be no potential for exposure of people to excessive noise levels related to airport operations. Therefore, there would be no impact.

3.14 POPULATION AND HOUSING

POPULATION AND HOUSING Would the Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 Discussion

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

Finding: Less Than Significant Impact

The proposed project would not directly or indirectly result in the construction of new homes or businesses. Construction personnel are anticipated to come from the local area, with no impacts occurring on population growth. Operation of the proposed project would involve improved water delivery capabilities by adding redundancy to MNWD's 1050 zone. The proposed project does not involve increases in capacity that could indirectly induce unplanned population growth. Therefore, the proposed project would result in a less than significant impact related to directly or indirectly inducing substantial unplanned population growth in the area.

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

Finding: No Impact

The proposed Project would not displace any existing housing, necessitating the construction of replacement housing elsewhere. No existing residents in the area would be displaced as a result of the construction or operation of the new pipeline, pump station, and associated appurtenances. Therefore, there would be no impact

3.15 PUBLIC SERVICES

PUBLIC SERVICES Would the Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) 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?	☐	☐	☐	☒

3.15.1 Discussion

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, or other public facilities?

Fire Protection

Finding: No Impact

The proposed project would not result in the need for new or physically altered governmental facilities for fire protection that would cause adverse physical impacts. There would be no additional residential development built because of the proposed project that would cause response times for fire protection and emergencies to increase. The proposed project would improve water flow to fire hydrants in the region surrounding the proposed project site by providing a redundant supply of water to the area served by the new pipeline thereby improving overall firefighting capability. Therefore, no impacts would occur.

Police Protection

Finding: No Impact

The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, such as police protection, or have the need for new or physically altered

governmental facilities. Local population numbers would not increase due to the proposed project. Therefore, the police protection ratios would remain the same and there would be no additional need for police protection. Therefore, no impacts would occur.

Schools

Finding: No Impact

The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, such as schools, or have the need for new or physically altered governmental facilities. The local population would not increase due to the proposed project. There would be no need for construction of new school facilities. Therefore, no impact to schools would occur.

Parks

Finding: No Impact

The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, such as parks, or have the need for new or physically altered governmental facilities. There would not be an increase in local population due to the proposed project that would increase the demand for public services such as parks. Therefore, no impact to parks would occur.

Other Public Facilities

Finding: No Impact

The proposed project would not require the need for new or physically altered governmental public facilities. No other public facilities are located adjacent to the proposed project site. Therefore, no impacts to other public facilities would occur.

3.16 RECREATION

RECREATION Would the Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) 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) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.16.1 Discussion

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

Finding: No Impact

The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities to the extent that substantial physical deterioration of the facility would occur or be accelerated or that would require the construction or expansion of recreational facilities that could have an adverse physical effect on the environment. No population growth would be generated that would increase the use and deterioration of existing recreational facilities, nor does the proposed project include any recreational facility components. The nearest public park to the proposed project is Badlands Park, which is located approximately 0.15-mile southwest of the proposed project, on the other side of a steep hill. This park would not be affected by proposed project construction or operational activities. Therefore, construction and operation of the proposed project would not substantially affect the use of any parks or require the construction or expansion of any new recreational facilities. There would be no impact.

3.17 TRANSPORTATION

TRANSPORTATION Would the Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection(s) or incompatible uses (e.g. farm equipment))?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☒	☐	☐

3.17.1 Discussion

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

Finding: Less Than Significant Impact

The City's General Plan accounts for regional movement and development throughout their respective planning area. Proposed project construction activities would result in temporary disruption to Pacific Island Drive, Ocean Way, and Casalero Drive circulation and would require partial closure of Pacific Island Drive during work hours for 8 weeks. However, adequate ingress and egress of existing traffic, pedestrians, and bicyclists through the area would occur, as delineated in the traffic control plan that would be required for the proposed project and approved by the City's Public Works Director (Municipal Code Section 5-4-8). No permanent disruptions or alterations of the existing circulation system would occur as a result of the proposed project. Therefore, the proposed project would result in a less than significant impact related to confliction with a program, ordinance, or policy addressing the circulation system.

Once operational, the proposed project would largely be located underground and would not result in any impacts related to confliction with a program, ordinance, or policy addressing the circulation system.

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

Finding: Less than Significant Impact

A project that would reduce or have no impact on vehicle miles travelled should be presumed to have a less than significant impact (pursuant to Section 15064.3(b) of the CEQA Guidelines). The proposed project would not result in additional truck trips during operations beyond what exists under current conditions and therefore would be consistent with the CEQA Guidelines Section 15064.3(b). Construction of the proposed project would result in temporary material haul trips and worker trips to the proposed project site throughout the construction period of the proposed

project. These truck trips would be limited in duration and daily quantity, averaging about 15 truck trips per day during short-duration peak construction periods, and would be sporadic over the duration of construction, with more truck trips during material delivery and fewer truck trips during installation of proposed project features. These additional truck trips would not result in a substantial increase in vehicle miles travelled, and therefore, construction of the proposed project would also be consistent with the CEQA Guidelines Section 15064.3(b). The impact would be less than significant.

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

Finding: No Impact

The proposed project would not result in any increases in transportation hazards because of any of its design features, nor would it create incompatible uses with the existing traffic operations. No change to current roadway design would result from the proposed project. Therefore, the proposed project would have no impact to hazards due to a design feature or incompatible uses.

d) Would the project result in inadequate emergency access?

Finding: Less Than Significant Impact with Mitigation

Construction and operation of the proposed project would not result in any physical changes to the transportation system or traffic operations that would potentially affect emergency access. However, construction activities may temporarily impact public roadways which could result in inadequate emergency access through the area. As such, Mitigation Measure TRANS-1 would be implemented which would require notification to both the Orange County Fire Authority (OCFA) and the Orange County Sheriff's Department (OCSD) of any construction activities that may impeded public roadways and allow emergency response to re-route to alternative routes. Additionally, once construction activities are complete, no long-term sources of proposed project traffic would occur that would interfere with emergency access. Therefore, there would be no impact.

Mitigation Measure

TRANS-1: Emergency Access Notification

Prior to commencing construction, MNWD shall notify the Orange County Fire Authority (OCFA) and the Orange County Sheriff's Department (OCSD) of construction activities that would impede movement (such as lane closures) along proposed project alignment to allow emergency response teams to reroute to alternative routes, if needed.

3.18 TRIBAL CULTURAL RESOURCES

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

3.18.1 Discussion

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size, or object with cultural value to the California Native American tribe and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Finding: Less Than Significant Impact with Mitigation

There are no archaeological resources listed in the California Register of Historical Resources or any local registers and no tribal resources are known to exist. MNWD sent letters for requests to consult on the project under AB 52, and received one response from the Juaneno Band of Mission Indians Tribe requesting a monitor onsite during construction activities. Mitigation Measure CUL-1, Tribal Monitor, includes requirements for a tribal monitor onsite. If

any archaeological or potential tribal cultural resources are encountered during construction or excavation activities, all work would be halted near the discovery and Mitigation Measure CUL-2 would be followed for the inadvertent discovery. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the resource significance would be considered and assessed by a California Native American tribe with known associations and ancestral ties to the area. Therefore, because there are no known archaeological or tribal resources in the proposed project area, and with compliance with Public Resources Code Section 5024.1 and Mitigation Measures CUL-1 and CUL2, impacts related to tribal cultural resources would be less than significant.

Mitigation Measures

Mitigation Measure CUL-1: Tribal Monitoring

A qualified tribal monitor will conduct full-time monitoring of ground disturbance during Project construction. Monitoring will consist of observation of excavation work on native soils and monitoring associated spoil piles. The Monitor shall coordinate with the Juaneno Band of Mission Indians Tribe when performing these activities. Should subsurface conditions indicate conditions not favorable for the preservation of tribal resources, the qualified tribal monitor may reduce or halt monitoring. At the completion of ground disturbance, the qualified tribal monitor will draft a letter report outlining the methods and results of the monitoring program.

Mitigation Measure CUL-2: Inadvertent Discovery

In the event that tribal resources are encountered during construction activities, all work must stop in the immediate vicinity of the finds for a safe distance while the tribal monitor documents the find and the qualified tribal monitor assesses the find. Should the qualified tribal monitor assess the find as significant, it should be collected and curated in an accredited repository along with all necessary associated data.

3.19 UTILITIES AND SERVICE SYSTEMS

UTILITIES and SERVICE SYSTEMS Would the Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supply available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that is has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.19.1 Discussion

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

Finding: Less Than Significant Impact

The proposed project would not require the construction of new water facilities, wastewater treatment facilities, stormwater drainage, natural gas, or telecommunications or the expansion of existing facilities, the construction of which could cause significant environmental effects. Although a new and larger electrical transformer would be constructed as part of the proposed project, this transformer would be built in the footprint of the existing pump station site and would not cause signification environmental effects (as discussed throughout this IS/MND). Wastewater would not be generated because of the proposed project nor would any substantial increases in water or electrical use be needed as a result of the proposed project. The proposed project itself would improve the redundancy to MNWD's existing water system in the area, which is being analyzed as part of this document. Therefore, the proposed project would not result in nor require the construction of new water, wastewater, stormwater, electrical power, natural gas, or telecommunications infrastructure, and a less than significant impact would occur.

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

Finding: No Impact

The proposed project is intended to provide increased efficiency and redundancy to MNWD's existing potable water system. No additional or expanded entitlements are necessary for construction or operation of the proposed project. Therefore, there would be no impact.

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

Finding: No Impact

The proposed project would not result in any increases or generation of wastewater during construction or operation. There would be no impact.

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

Finding: Less Than Significant Impact

Solid waste within the City is generally brought to the Prima Deshecha Landfill. This landfill has a maximum permitted capacity of 172,100,000 cubic yards and has a remaining capacity of 134,300,000 cubic yards. The maximum daily throughput of this landfill is 4,000 tons of materials per day (CalRecycle 2019).

Soils generated during construction would potentially be reused on-site, with a minor amount of unusable material hauled off-site. Additional construction debris could include vegetation from clearing of brush, concrete, asphalt, and other miscellaneous materials. This solid waste generated from construction of the proposed project would not be expected to exceed the daily maximum capacity of the Prima Deshecha Landfill. Further, once construction has been completed, no additional solid waste would be generated by the proposed project because there would be no new employees or activities associated with the new pipeline, pump station, or associated appurtenances. Therefore, there would be a less than significant impact.

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

Finding: No Impact

As discussed under item 'd' above, the proposed project would not result in substantial amounts of solid waste during construction or operation that would exceed the daily maximum capacity of the Prima Deshecha Landfill. Therefore, the proposed project would comply with CALGreen, which requires the diversion of 65 percent of construction material waste from landfills. Therefore, the proposed project would not conflict with federal, state, or local management and reduction statutes related to solid waste. There would be no impact.

3.20 WILDFIRES

WILDFIRES	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones; i. Would the project impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
ii. Would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
iii. Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
iv. Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

3.20.1 Discussion

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:

i. Would the project impair an adopted emergency response plan or emergency evacuation plan;

ii. Would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from wildlife or the uncontrolled spread of a wildfire;

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

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

Finding: Less Than Significant Impact

The proposed project site is within a Local Responsibility Area that has a very high fire hazard severity zone designation as designated by the CAL FIRE Fire Hazard Severity Zone Map (CAL FIRE 2020). Construction of the proposed project would involve the use of construction equipment that could cause the unintentional release of sparks or heat from construction equipment into nearby flammable material, such as brush or grasses, which then could impair emergency response plans or evacuation plans, exacerbate wildfire risk, or potentially expose downslope or downstream people or structures to significant risk. In particular, construction of the new pump station and pipelines adjacent to the undisturbed areas adjacent to Pacific Island Drive in the southern portion of the proposed project site could include construction activities near grasses or other flammable woody vegetation that are on steep slopes. However, all proposed project construction activities would be constructed in compliance with all applicable local, state, and federal requirements, including the California Fire Code and OCFA, which limits the potential for construction equipment to spark a wildland or urban fire by requiring the implementation of fire protection systems, means of adequate ingress and egress of construction equipment and personnel, and use of fire-resistive construction equipment. Additionally, the majority of construction activities would occur within existing paved rights-of-way and within existing disturbed areas and built-up areas (with concrete and paved areas) where groundcover vegetation is minimal and less prone to flammability. This would limit the potential for construction of proposed project activities to impair emergency response plans or evacuation plans, exacerbate wildfire risk, require installation of associated infrastructure, or expose downslope or downstream people or structures to significant risk. Therefore, construction of the proposed project would have a less than significant impact related to wildland fires.

Once operational, the proposed project would be located largely underground, and the new pump station site would be located adjacent to the existing pump station site, which would not result in any potential impacts related to impairment of emergency response plans or evacuation plans, exacerbation of potential wildfire risk, require installation of associated infrastructure, or expose downslope or downstream people or structures to significant risk. Therefore, there would be no operational impacts.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but 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?	☐	☐	☒	☐

3.21.1 Discussion

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

Findings: Less Than Significant with Mitigation

As discussed in Section 3.4, Biological Resources and Section 3.18, Tribal Cultural Resources, the proposed project would not result in any of the effects listed in question "a" with mitigation incorporated. Historic or subsurface cultural resources have not been identified in the proposed project site, and any resources that could be discovered during construction activities would be handled in conformation with applicable regulations. Therefore, degradation to the cultural environment in the proposed project site is not anticipated to occur.

This proposed project would have no effects on fish, and all potentially significant impacts to rare or endangered species in the area would be mitigated to a less than significant level through avoidance and protection (i.e., Mitigation Measure BIO-1, as discussed in Section 3.4). Proposed project construction activities would be limited to 12 months and would involve the use of minimal construction equipment, vehicles, and personnel. All potential impacts to special-status species and historical resources would be less than significant with mitigation incorporated.

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)?

Findings: Less Than Significant Impact

MNWD plans to construct a future 15-foot by 25-foot RMS building adjacent to the new pump station. Future activities associated with construction of this building would be limited to a few construction workers and associated equipment to construct the building and associated appurtenances. Because the proposed project would involve minimal construction activities and does not involve any significant impacts, as discussed throughout this document, the proposed project would not result in a cumulatively considerable impact when combined with this future project. The construction schedules for these two projects would not overlap, and all potentially significant impacts would be less than significant with mitigation or with compliance with applicable federal, state, and local regulations. Therefore, the proposed project would result in a less than significant cumulatively considerable impact.

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

Findings: Less than Significant Impact

The proposed project would not substantially affect any sensitive receptors or other people who could be harmed by the proposed project's construction or operation. All of the identified construction- and operational-related impacts were determined to be less than significant or to have no impact. Therefore, the proposed project's environmental effects would be less than significant.

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5.0 REFERENCES

California Air Resource Board (CARB). 2018. AB 32 Scoping Plan. Website: https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm. Accessed November 2020.

California Department of Conservation. 2018. California Important Farmland Finder. Website: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed November 2020.

California Department of Conservation. 2020a. Earthquake Zones of Required Investigation. Website: https://maps.conservation.ca.gov/cgs/EQZApp/app/. Accessed December 2020.

California Department of Conservation. 2020b. Fault Activity Map of California. Website: https://maps.conservation.ca.gov/cgs/fam/. Accessed December 2020.

California Department of Conservation. 2020c. Tsunami Inundation Map for Emergency Planning. Website: https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=tsunami. Accessed December 2020.

California Department of Fish and Wildlife (CDFW). 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. Website: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959. Accessed December 2020.

California Department of Forestry and Fire Protection (CAL FIRE). 2020. Fire Hazard Severity Zone Viewer. Website: https://egis.fire.ca.gov/FHSZ/. Accessed November 2020.

California Department of Resources Recycling and Recovery (CalRecycle). 2019. SWIS Facility/Site Activity Details. Prima Deshecha Landfill (30-AB-0019). Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2750?siteID=2085. Accessed November 2020.

California Department of Transportation (Caltrans). 2020. California State Scenic Highway system Map. Website: https://www.arcgis.com/apps/webappviewer/index.html?id=2e921695c43643b1aaf7000dfcc19983. Accessed December 2020.

California Department of Water Resources. 2020. SGMA Basin Prioritization Dashboard. Website: https://gis.water.ca.gov/app/bp-dashboard/final/. Accessed December 2020.

California Regional Water Quality Control Board. 1994, as amended. Water Quality Control Plan for the San Diego Basin. Website: https://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/docs/R9_Basin_Plan.pdf. Accessed December 2020.

County of Orange. 1996. Natural Community Plan and Habitat Conservation Plan. Website: https://occonservation.org/about-ncc/. Accessed December 2020.

Data Basin. 2020. Orange County Central Coastal HCP Boundary. Website: https://databasin.org/maps/new#datasets=ed49d8389c2349f2a0c9e56cfc7c48ef. Accessed December 2020.

Department of Toxic Substances Control (DTSC). 2020. EnviroStor. Website: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=laguna+Niguel. Accessed November 2020.

Federal Highway Administration (FHWA). 2020. Roadway Construction Noise Model. Website: https://www.fhwa.dot.gov/. Accessed November 2020.

Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed November 2020.

Laguna Niguel. 1992. City of Laguna Niguel General Plan. Website: https://www.cityoflagunaniguel.org/132/General-Plan. Accessed November 2020.

Laguna Niguel. 2012. City of Laguna Niguel Official Zoning Code Map. https://www.cityoflagunaniguel.org/DocumentCenter/View/702/Zoning-Map?bidId=. Accessed November 2020.

Laguna Niguel. 2020. City of Laguna Niguel Online GIS Map. Website: http://gis.cityoflagunaniguel.org/PublicViewer/. Accessed November 2020.

Leighton Consulting, Inc. 2020. Geotechnical Exploration Report, Moulton Niguel Water District 1050-Zone Secondary Feed Pump Station and Transmission Main (Project No. 2017.019). Prepared for Stantec Consulting Services, Inc. November 18, 2020.

Pax Environmental. 2021. Results of a Focused Field Survey for the Coastal California Gnatcatcher at Pacific Island Drive, Laguna Niguel Orange County, California. Prepared by Pax Environmental for Stantec. February 16, 2021. Accessed February 17, 2021.

South Coast Air Quality Management District (SCAQMD). 2019. South Coast AQMD Air Quality Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf. Accessed December 2020.

Stantec Consulting Services Inc (Stantec). 2021. Biological Resources Technical Report. Moulton Niguel Water District 1050-Zone Secondary Feed Pump Station & Transmission Main Project.

State Water Resources Control Board (SWRCB). 2020. GeoTracker. Website: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=laguna+Niguel. Accessed November 2020.

February 2022

APPENDICES

1050-Zone Secondary Feed Pump Station and Transmission Main Project

February 2022

Appendix A BIOLOGICAL RESOURCES

A.1 Biological Resources Technical Report

A.2 CAGN Survey Report

Biological Resources Technical Report

Moulton Niguel Water District 1050-Zone Secondary Feed Pump Station & Transmission Main Project

February 2022

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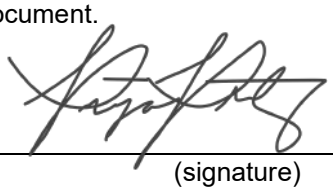
Prepared by 
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Abbreviations

AB	Assembly Bill
BGEPA	Bald and Golden Eagle Protection Act
BRTR	Biological Resource Technical Report
BSA	Biological Study Area
CCC	California Coastal Commission
CCH	Consortium of California Herbaria
CCMP	California Coastal Management Program
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
City	City of Laguna Niguel
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DCH	Designated Critical Habitat
District	Moulton Niguel Water District
CESA	California Endangered Species Act
FESA	Federal Endangered Species Act
FGC	California Fish and Game Code
FR	Federal Register
GPS	Global Positioning System
HCP	Habitat Conservation Plans
LSAA	Lake or Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
MCVII	Second Edition of The Manual for California Vegetation
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NCCP	Natural Community Conservation Plans
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Project	Moulton Niguel Water District 1050-Zone Secondary Feed Pump Station & Transmission Main Project
RMS	Reservoir Management System
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern

USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey
WOTS	Waters of the State
WOTUS	Waters of the United States

1.0 INTRODUCTION

This Biological Resources Technical Report (BRTR) is intended to document the biological resources that are associated with the Moulton Niguel Water District 1050-Zone Secondary Feed Pump Station & Transmission Main Project (Project) located in Laguna Niguel, California (Appendix A, Figure 1). The survey conducted and the discussions presented in this BRTR are intended to support planning, regulatory agency permitting, and associated documentation. A reconnaissance-level survey was conducted by Stantec Project Biologist Priya Pratap on September 17, 2020 within accessible portions of the Project site and within a surrounding 500-foot buffer zone (approximately 48.40 acres). This approximate 48.40-acre area is defined as the Biological Study Area (BSA) (Appendix A, Figure 2). This BRTR describes the existing environmental conditions that occur within the BSA and surrounding areas and evaluates the potential for biological resources to occur based on those conditions, with a special emphasis on special-status plant and wildlife species, wildlife corridors, and special-status and sensitive natural communities.

1.1 PROJECT LOCATION

The Project is in southern Orange County, California, within the U.S. Geological Survey (USGS) San Juan Capistrano 7.5-minute topographic quadrangle, in the City of Laguna Niguel (City). The Project occurs along a 0.2-mile segment of Pacific Island Drive and includes its intersection with Casalero Drive and Ocean Way, with the northern boundary at Casalero Drive. It is approximately 0.8 mile east of California State Route 1, 0.9 mile east of the Pacific Ocean, 0.2 mile east of Badlands Park, and one mile southeast of Aliso Creek. It is within a segment of Pacific Island Drive adjacent to the neighborhoods of Monarch Summit and Monarch Point. In general, the Project site consists of a paved multi-lane roadway and two-way residential roads, as well as landscaped and naturally vegetated areas adjacent to single family residential neighborhoods. The general area surrounding the Project site is predominantly single-family residential to the north, west, and east, and open space to the south (City of Laguna Niguel 2012).

1.2 PROJECT DESCRIPTION

Moulton Niguel Water District's (District) 1050 pressure zone is comprised of approximately 710 residential and irrigation service connections. Being that this is a small, hydraulically closed zone with one type of customer base, flows are highly variable diurnally and seasonally. Currently, supply comes from a single source, an existing pump station. To provide additional system reliability, an alternate supply source is needed. The District proposes the installation of a new pump station for system reliability. The proposed Project site has adequate space for a new pump station, a future Reservoir Management System building, and a new backup emergency generator.

2.0 METHODOLOGIES

This biological resources assessment of the BSA included but was not limited to a literature review, reconnaissance-level, non-protocol survey to detect the presence of special-status plant and wildlife species, including listed species, if present. Stantec Project Biologist Priya Pratap conducted the initial reconnaissance-level survey on September 17, 2020. Prior to the survey, a preliminary literature review of readily available resources was performed. The survey was conducted on foot within the BSA, where accessible, based on terrain and availability of access.

2.1 LITERATURE REVIEW

A literature search focused on the BSA was conducted prior to the reconnaissance-level survey. The BSA is within the USGS San Juan Capistrano, California, 7.5-minute topographic quadrangle. A search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was conducted in the BSA and a surrounding 10-mile buffer area to determine special-status plants, wildlife, and vegetation communities that have been documented within the vicinity of the BSA (CDFW 2020a). The database included portions of the following quadrangles surrounding the BSA:

- Tustin
- Lake Forest
- Santiago Peak
- Laguna Beach
- Canada Gobernadora
- Dana Point
- San Clemente

Additional data regarding the potential occurrence of special-status species and policies relating to these special-status natural resources were gathered from the following sources:

- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2020b)
- Special Animals List (CDFW 2020c)
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2020d)
- California Sensitive Natural Communities (CDFW 2020e)
- Inventory of Rare and Endangered Vascular Plants of California (CNPS 2020)
- Consortium of California Herbaria (CCH 2020)

2.2 BIOLOGICAL SURVEY AND HABITAT ASSESSMENT

2.2.1 Site Reconnaissance and Wildlife Survey

Stantec conducted a habitat assessment and reconnaissance-level survey to document the environmental conditions present within the BSA. The primary goal of the initial survey was to identify and assess habitat that may be capable of supporting special-status plant or wildlife species and determine the potential need for additional focused surveys for special-status resources. Biologists recorded all incidental plant and

wildlife observations. This assessment also included focused, protocol-level surveys for coastal California gnatcatcher (*Polioptila californica californica*), a federally listed and CDFW species of special concern, no rare plant or other special-status wildlife species' focused survey were conducted due to the lack of suitable habitat.

The reconnaissance-level survey was conducted during a season and time of day when resident and migratory birds would be expected to be present and exhibiting normal activity, small mammals would be active and detectable visually or by sign, and above-ground amphibian and reptile movement would generally be detectable. However, it should be noted that some wildlife species and individuals may have been difficult to detect due to their elusive nature, cryptic morphology, or nocturnal behavior. The survey was conducted during daylight hours when temperatures were such that reptiles and other wildlife would be active (i.e., between 65-95 degrees Fahrenheit). The September 17, 2020, survey was conducted shortly after sunrise considering most birds are generally active at sunrise.

The BSA was investigated on foot (where accessible) by an experienced field biologist walking throughout publicly accessible areas at an average pace of approximately 1.5 kilometers per hour while visually scanning for wildlife and their sign and listening to wildlife songs and calls. The biologist paused as necessary to listen for wildlife or to identify, record, or enumerate any observed species. Species present were identified and recorded through direct visual observation, sound, or their sign (e.g., scat, tracks, etc.). Species identifications conform to the most up-to-date field guides and technical literature.

2.2.2 Vegetation Mapping

Vegetation descriptions and nomenclature are based on the second edition of *A Manual of California Vegetation* (MCVII) (Sawyer et al. 2009), where applicable, and have been defined to the alliance level. Vegetation maps were prepared by recording tentative vegetation type boundaries over recent aerial photograph base maps using the ESRI Collector for ArcGIS app on an Apple iPad coupled with a Bad Elf GNSS Survey or sub-meter external global positioning system (GPS) unit. Mapping was further refined in the office using ESRI ArcGIS (version 10.7) with aerial photograph base maps with an accuracy of 1 foot. Most boundaries shown on the maps are accurate within approximately 3 feet; however, boundaries between some vegetation types are less precise due to difficulties in interpreting aerial imagery and accessing stands of vegetation.

Vegetation communities can overlap in many characteristics and over time may shift from one community type to another. All vegetation maps and descriptions are subject to variability for the following reasons: In some cases, vegetation boundaries result from distinct events, such as wildfire or flooding, but vegetation types usually tend to intergrade on the landscape, without precise boundaries between them. Even distinct boundaries caused by fire or flood can be disguised after years of post-disturbance succession. Mapped boundaries represent best professional judgment, but usually should not be interpreted as literal delineations between sharply defined vegetation types.

Natural vegetation tends to exist in generally recognizable types, but also may vary over time and geographic region. Written descriptions cannot reflect all local or regional variation. Many (perhaps most) stands of natural vegetation do not strictly fit into any named type. Therefore, a mapped unit is given the

best name available in the classification system being used, but this name does not imply that the vegetation unambiguously matches written descriptions.

Vegetation tends to be patchy. Small patches of one named type are often included within larger stands mapped as units of another type.

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3.0 REGULATORY ENVIRONMENT

3.1 FEDERAL REGULATIONS

3.1.1 Federal Endangered Species Act

Federal Endangered Species Act (FESA) provisions protect federally listed threatened and endangered species and their habitats from unlawful "take" and ensure that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of Designated Critical Habitat (DCH). Under FESA, take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." The U.S. Fish and Wildlife Service (USFWS) regulations define harm to mean "an act which actually kills or injures wildlife." Such an act "may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 Code of Federal Regulations [CFR] Section 17.3).

DCH is defined in FESA Section 3(5)(A) as "(i) the specific areas within the geographical area occupied by the species on which are found those physical or biological features: (I) essential to the conservation of the species; (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species upon a determination by the Secretary of Commerce or the Secretary of the Interior that such areas are essential for the conservation of the species." The effects analyses for DCH must consider the role of the critical habitat in both the continued survival and the eventual recovery (i.e., the conservation) of the species in question, consistent with the recent Ninth Circuit judicial opinion, *Gifford Pinchot Task Force v. USFWS*.

Activities that may result in "take" of individuals are regulated by USFWS. USFWS produced an updated list of candidate species December 6, 2007 (72 Federal Register [FR] 69034). Candidate species are not afforded any legal protection under FESA; however, candidate species typically receive special attention from federal and state agencies during the environmental review process.

3.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 United States Code [USC] 703-711) makes it unlawful to possess, buy, sell, purchase, barter or take any migratory bird listed in Title 50 of CFR Part 10. Take is defined as possession or destruction of migratory birds, their nests, and eggs. Disturbances that cause nest abandonment or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. The MBTA prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of Interior. The MBTA encompasses whole birds, parts of birds, bird nests, and eggs.

3.1.3 Bald and Golden Eagle Protection Act of 1940 (16 USC 668)

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 (16 USC 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. Take of bald and golden eagles is defined as follows: "disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior" (72 FR 31132; 50 CFR 22.3).

USFWS is the primary federal authority charged with the management of golden eagles in the U.S. A permit for take of golden eagles, including take from disturbance such as loss of foraging habitat, may be required for this Project. USFWS guidance on the applicability of current BGEPA statutes and mitigation is currently under review. On November 10, 2009, the USFWS implemented new rules (74 FR 46835) governing the take of golden and bald eagles. The new rules were released under the existing BGEPA, which has been the primary regulatory protection for unlisted eagle populations since 1940.

All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this act. The definition of disturb (72 FR 31132) includes interfering with normal breeding, feeding, or sheltering behavior to the degree that it causes or is likely to cause decreased productivity or nest abandonment. If a permit is required, due to the current uncertainty on the status of golden eagle populations in the western U.S., it is expected that permits would only be issued for safety emergencies or if conservation measures implemented in accordance with a permit would result in a reduction of ongoing take or a net take of zero.

3.1.4 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act, as amended in 1964, requires that all federal agencies consult with National Marine Fisheries Service (NMFS), USFWS, and state wildlife agencies (i.e., CDFW) when proposed actions might result in modification of a natural stream or body of water. Federal agencies must consider effects that these projects would have on fish and wildlife development and provide for improvement of these resources. The Fish and Wildlife Coordination Act allows NMFS, USFWS, and CDFW to provide comments to United States Army Corps of Engineers (USACE) during review of projects under Section 404 of the Clean Water Act (CWA) (concerning the discharge of dredged materials into navigable waters of the U.S. [WOTUS]) and Section 10 of the Rivers and Harbors Act (RHA) regarding obstructions in navigable waterways. NMFS comments provided under the Fish and Wildlife Coordination Act are intended to reduce environmental impacts to migratory, estuarine, and marine fisheries and their habitats. Since the Project involves impacts to waters of the U.S. and the potential modification of a federal levee, consultation with NMFS, USFWS and CDFW would be required.

3.1.5 National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969 requires all federal agencies to examine the environmental impacts of their actions, incorporate environmental information, and use public participation in the planning and implementation of all actions. Federal agencies must integrate NEPA into other planning requirements and prepare appropriate NEPA documents to facilitate better environmental decision-making. NEPA requires federal agencies to review and comment on federal agency environmental plans and documents when the agency has jurisdiction by law or special expertise with respect to any environmental impacts involved (42 USC 4321- 4327; 40 CFR 1500-1508).

3.1.6 Federally Regulated Habitats

Areas that meet the regulatory definition of “waters of the United States” are subject to the jurisdiction of the USACE under provisions of Section 404 of the CWA (1972) and Section 10 of the Rivers and Harbors Act (1899). WOTUS may include all waters used or potentially used for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (e.g., intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as WOTUS, tributaries of waters otherwise defined as WOTUS, territorial seas, and wetlands (i.e., “Special Aquatic Sites”) adjacent to WOTUS (33 CFR Part 328, Section 328.3).

Construction activities within WOTUS are regulated by USACE. The placement of fill into such waters must comply with permit requirements of USACE. No USACE permit would be effective in the absence of State Water Quality Certification pursuant to Section 401 of the CWA. As a part of the permit process, the USACE works directly with the USFWS to assess potential project impacts on biological resources. The jurisdictional extent of USACE regulation changed with the 2001 Solid Waste Agency of Northern Cook County ruling. The U.S. Supreme Court held that the USACE could not apply Section 404 of the CWA to extend their jurisdiction over an isolated quarry pit. The Court ruled that the CWA does not extend Federal regulatory jurisdiction over non-navigable, isolated, intra-state waters. However, the Court made it clear that non-navigable wetlands adjacent to navigable waters are still subject to USACE jurisdiction.

The jurisdictional extent of USACE regulation changed with the 22 June 2020 – Navigable Waters Protection Rule. The Navigable Waters Protection Rule establishes the scope of federal regulatory authority under the Clean Water Act. Based in the 2020 Navigable Waters Protection Rule, USACE does not have regulatory authority over ephemeral drainages that previous met the definition of waters of the U.S.

3.2 STATE REGULATIONS

3.2.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) establishes state policy to prevent significant and avoidable damage to the environment by requiring changes in projects through alternatives or mitigation measures. CEQA applies to actions directly undertaken, financed, or permitted by state lead agencies. Regulations for implementation are found in the CEQA Guidelines published by the California Natural

Resources Agency. These guidelines establish an overall process for the environmental evaluation of projects.

3.2.2 California Endangered Species Act

Provisions of the California Endangered Species Act (CESA) protect state-listed threatened and endangered species. The CDFW regulates activities that may result in take of individuals (i.e., take is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of take under the California Fish and Game Code (FGC). Additionally, the FGC contains lists of vertebrate species designated as “fully protected” (FGC Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish]). Such species may not be taken or possessed.

In addition to federal and State-listed species, the CDFW also has produced a list of Species of Special Concern (SSC) to serve as a “watch list.” Species on this list are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. SSC may receive special attention during environmental review, but they do not have statutory protection.

Birds of prey are protected in California under the FGC. FGC Section 3503.5 states that it is “unlawful to ‘take’, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) or to ‘take’, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered take by the CDFW. Under Sections 3503 and 3503.5 of the FGC, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory nongame bird as designated in the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to FGC Section 3800 are prohibited.

3.2.3 Section 1602 of the California Fish and Game Code

Section 1602 of the FGC requires any person, state or local governmental agency, or public utility which proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed, or result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, to first notify the CDFW of the proposed project. Notification is generally required for any project that would take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials submitted, the CDFW would determine whether the proposed project may impact fish or wildlife resources.

If the CDFW determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement (LSAA) would be required. A completed CEQA

document must be submitted to CDFW before an LSAA would be issued. The Project area falls within the South Coast Region of the CDFW.

3.2.4 Porter-Cologne Water Quality Control Act

California RWQCBs regulate the "discharge of waste" to "waters of the state" (WOTS). Both terms "discharge of waste" and WOTS are broadly defined such that discharges of waste include fill, any material resulting from human activity, or any other "discharge." Section 401 of the CWA requires that any applicant for a Federal permit for activities that involve a discharge to 'waters of the State,' shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the CWA. Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the RWQCB. Isolated wetlands within California, which are no longer considered WOTUS, as defined by Section 404 of the CWA, are addressed under the Porter Cologne Water Quality Control Act. The Project area falls under the jurisdiction of the Region 9 – San Diego RWQCB.

3.2.5 State-Regulated Habitats

The State Water Resources Control Board is the state agency (together with the RWQCBs) charged with implementing water quality certification in California.

The CDFW extends the definition of stream to include "intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS-defined), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife" (CDFW 1994).

Activities that result in the diversion or obstruction of the natural flow of a stream; that substantially change its bed, channel, or bank; or that use any materials (including vegetation) from a streambed may require that the project applicant enter into an LSAA with the CDFW.

3.2.6 Native Plant Protection Act

Under FGC Sections 1900 to 1913, the Native Plant Protection Act (NPPA) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of NPPA prohibit the taking of listed plants from the wild and require notification of the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. If suitable habitat occurs, a project applicant is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of the NPPA and sections of CEQA that apply to rare or endangered plants.

3.3 LOCAL REGULATIONS

3.3.1 Orange County General Plan – Chapter VI. Resources Element

3.3.1.1 Natural Resources Component

The Natural Resources Component of the Resources Element of the Orange County General Plan contains policies and programs which are designed to protect and conserve natural resources in the County, including scenic areas such as ridgelines and hillsides, climate, farmlands, native vegetation and wildlife, and mineral resources. It provides a basis for programs which served to implement natural resource conservation goals and policies and establish a framework for additional inventory and resource planning efforts (County of Orange 2005).

The Goals, Objectives, and Policies relative to natural resources that apply to the Project area are as follows:

Goal 1 Protect wildlife and vegetation resources and promote development that preserves these resources.

- **Objective 1.1** To prevent the elimination of significant wildlife and vegetation through resource inventory and management strategies.
- **Policy 1.** To identify and preserve the significant wildlife and vegetation habitats of the County.

Goal 3 Manage and utilize wisely the County's landform resources.

- **Objective 3.1** To minimize to the extent feasible the disruption of significant natural landforms in Orange County.
- **Policy 5.** To protect the unique variety of significant landforms in Orange County through environmental review procedures and community and corridor planning activities.

3.3.1.2 Open Space Component

The Open Space Component of the Resources Element of the Orange County General Plan is the open space plan for the unincorporated areas of Orange County. This component is the successor to the Open Space Element originally adopted by the Board of Supervisors on June 27, 1973. The preparation of this component is in compliance with State Government Code Sections 65560-65568, which require each city and county to prepare and adopt an open space plan for the comprehensive and long-range preservation of open space land within its jurisdiction (County of Orange 2005).

The Open Space Component contains the necessary goals, objectives, policies, and programs to promote the preservation and protection of resource areas and the protection of the public from potential hazards. The component also functions in a manner to shape the overall urban form of Orange County. To that end, open space facilities such as greenbelts that buffer conflicting land uses or link recreation facilities along regional trails and water courses are desired, as well as areas set aside to preserve cultural-historic

resources, significant wildlife habitats, and biotic resources such as oak groves, sycamore/riparian woodlands, and marshlands (County of Orange 2005).

An integral part of the Open Space Component is the Open Space/Conservation Program Map which depicts an open space framework of countywide significance. This framework includes areas of resource concentration such as existing and proposed regional recreation facilities and a system of linkages such as trails and major open space corridors. The implementation programs provide the mechanism by which an integrated open space network can be realized (County of Orange 2005).

The Goals, Objectives, and Policies relative to open space that apply to the Project Area are as follows:

Goal 1 Retain the character and natural beauty of the environment through the preservation, conservation, and maintenance of open space.

- **Objective 1.1** To designate open space areas that preserve, conserve, maintain, and enhance the significant natural resources and physical features of unincorporated Orange County.
- **Policy 1.1** To guide and regulate development of the unincorporated areas of the County to ensure that the character and natural beauty of Orange County is retained.
- **Policy 1.2** To implement the Open Space Component through a program organization capable of conducting multiple projects at priority locations throughout the County and with sufficient resources, authority, and responsibility to effectively manage the program.
- **Policy 1.3** To seek out, evaluate, and take advantage of special opportunities to obtain open space as these opportunities become available and when the available open space meets or helps to meet established open space goals and objectives.

Goal 4 Conserve open space lands needed for recreation, education, and scientific activities, as well as cultural-historic preservation.

- **Objective 4.1** To encourage the conservation of open space lands which provide recreational scenic, scientific, and educational opportunities.
- **Policy 4.1** To plan for the acquisition, development, maintenance, operation, and financing of open space lands which provide recreational, scenic, aesthetic, scientific, and educational opportunities.

3.3.2 City of Laguna Niguel General Plan

The City of Laguna Niguel General Plan provides a comprehensive long-term plan for its growth and physical development through appropriate goals, policies, and programs. The three relevant components of the General Plan are the Open Space Network Element, Parks and Recreation Element, and Conservation Element; and they address the importance of the provision of recreation areas, preservation of natural resources, avoidance of development in hazardous areas; and the establishment of buffers

between incompatible land uses (City of Laguna Niguel 1992). The purpose of the Laguna Niguel Open Space/Parks/Conservation Element is:

- To assure the continued availability of predominantly open land for the enjoyment of scenic beauty, for recreation, and for conserving natural resources.
- To guide development in order to make wise and prudent use of the City's natural, environmental and cultural resources.
- To maintain and enhance designated resource areas.
- To provide the foundation for a comprehensive open space management system involving all categories of open space.
- To establish the basis for City collaboration with adjacent jurisdictions in broader open space and environmental resource management, including establishment of linkages with adjoining open space and trail systems.

3.3.2.1 Open Space Element

Over one-third of the City of is designated as Open Space and is applied to open space corridors, greenbelt areas, landscaped slopes, and conservation areas. The Open Space Element defines that Open Space should be preserved for the preservation of natural resources; for the managed production of resources; for outdoor recreation; and for public health and safety (City of Laguna Niguel 1992).

3.3.2.2 Parks and Recreation Element

In the broadest sense, the Parks and Recreation Element is concerned with human development and the stewardship of land by helping to relate people to their environment. The City contains a vast amount of public and private park and recreation facilities including neighborhood parks, mini-parks, community parks, regional parks, private parks and recreation facilities, and school recreation facilities. The satisfaction of open space and recreation needs is an important value and a key community objective (City of Laguna Niguel 1992).

3.3.2.3 Conservation Element

The Conservation Component Element overlaps provisions found in the open space, land use, safety, and circulation elements, but is exclusively oriented towards natural resources. Orange County's climate and topography encompasses a wide range of natural resources with rises over 5,000 feet in elevation from the coast to the crest of the Santa Ana Mountains, and includes eight major vegetation communities. Development places pressure on the regional and local natural environments, reducing the ecological integrity of the region and deteriorating regional wildlife resources. There are a number of natural resources in Laguna Niguel that have ecological, aesthetic, and scenic value which the General Plan aims to conserve including wildlife and vegetative resources, sensitive species and plant communities, prominent landforms, cultural resources, historic resources, archaeological resources, and paleontological resources. Through multi-purpose programs, the environmental review process, and coordination among various responsible agencies, the important goal of maintaining sensitive natural resources in Laguna Niguel can be achieved (City of Laguna Niguel 1992).

3.3.3 Orange County Central-Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan

Assembly Bill (AB) 2172 (Natural Community Conservation Planning Act) bill was drafted in recognition of the fact that individual species protection programs prepared and implemented under the FESA and/or CESAwere costly and ineffective in protecting and/or preventing extinction of a plant or animal species, and that habitat-based, multi-species or ecosystem-based management and preservation approach has a greater potential for long-term success. AB 2172 was formally signed by Governor Wilson in September of 1991. It provided enabling legislation authorizing the California Department of Fish and Game (CDFG) to enter into agreements with any person, for the purpose of preparing and implementing Natural Community Conservation Plans (NCCP). The Natural Community Conservation Planning Act also provided the regulatory framework for the preparation of conservation guidelines for the development and implementation of NCCPs. In addition, the act also authorized NCCPs to be undertaken by local, state, or federal agencies independently or in cooperation with other persons (County of Orange 2005).

The Project area occurs in the coastal subarea of the Central-Coastal Subregion NCCP; however, the site is not within lands designated as “reserve” within the NCCP/ Habitat Conservation Plan (HCP). The Orange County Board of Supervisors approved the Central-Coastal NCCP/HCP on April 16, 1996 along with the certification of Environmental Impact Report/Environmental Impact Study No. 553. On July 17, 1996 an implementation agreement was executed by the Chairman of the Orange County Board of Supervisors, the State Resources Agency, Department of the Interior, the Transportation Corridor Agencies, Southern California Edison, the Irvine Company and other participating landowners and utility companies. The approval of the NCCP/HCP established the following (County of Orange 2005; County of Orange 1996):

- Habitat Reserve System (Nature Reserve of Orange County)
- Species and habitat covered under the approved NCCP/HCP
- Coastal Sage Scrub Take Authorization
- “Mutual Assurances” provisions
- Adaptive management programs
- Funding for reserve creation and habitat management
- Nonprofit Corporation

The primary goal of the NCCP/HCP is to protect and manage habitat supporting a broad range of plant and animal populations that are now found within the Central and Coastal Subregion. To accomplish this goal, the NCCP/HCP creates a subregional habitat Reserve System and implements a coordinated program to manage biological resources within the habitat reserve (County of Orange 1996).

3.3.4 Laguna Niguel Hillside Protection Ordinance

The City’s Hillside Protection Ordinance contains regulations that provide for the protection and preservation of steep hillside areas. The Ordinance specifically addresses the development restrictions in steep areas, limitations on earth movement, contouring of manufactured slopes, slope and retaining wall heights, landscaping and other visual mitigation and protection of biological resources.

3.4 OTHER APPLICABLE REGULATIONS, PLANS, AND STANDARDS

3.4.1 California Native Plant Society Rare Plant Program

The mission of the California Native Plant Society (CNPS) Rare Plant Program is to develop current, accurate information on the distribution, ecology, and conservation status of California's rare and endangered plants and to use this information to promote science-based plant conservation in California. Once a species has been identified as being of potential conservation concern, it is put through an extensive review process. Once a species has gone through the review process, information on all aspects of the species (e.g., listing status, habitat, distribution, threats, etc.) is entered into the online CNPS Rare Plant Inventory and given a California Rare Plant Rank (CRPR). The Rare Plant Program currently recognizes more than 1,600 plant taxa (species, subspecies, and varieties) as rare or endangered in California (CNPS 2020).

Vascular plants listed as rare or endangered by the CNPS, but which might not have a designated status under state endangered species legislation, are defined by the following CRPRs:

- CRPR 1A: Plants considered by the CNPS to be extinct in California
- CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2: Plants rare, threatened, or endangered in California, but more numerous elsewhere
- CRPR 3: Plants about which we need more information – a review list
- CRPR 4: Plants of limited distribution – a watch list

In addition to the CRPR designations above, the CNPS adds a Threat Rank as an extension added onto the CRPR and designates the level of endangerment by a 0.1 to 0.3 ranking, with 0.1 being the most endangered and 0.3 being the least endangered and are described as follows:

- 0.1: Seriously threatened in California (high degree/immediacy of threat)
- 0.2: Fairly threatened in California (moderate degree/immediacy of threat)
- 0.3: Not very threatened in California (low degree or immediacy of threats or no current threats known)

4.0 EXISTING CONDITIONS

4.1 SETTING

As depicted in Figures 1 and 2 in Appendix A, the BSA is along a portion of Pacific Islands Drive in the City. The BSA encompasses the single-family residential neighborhoods of Monarch Summit and Monarch Point, two private parks, open space, a Moulton Niguel Water District Facility, and multiple storm drainage channels with an elevation range of 580 feet to 800 feet. The land within the BSA is partially developed with urban infrastructure and open space (City of Laguna Niguel 2012). A photographic log for the survey is included in Appendix B and depicts representative environmental conditions within the BSA and surrounding areas.

4.2 VEGETATION AND LAND COVERS

As defined in MCVII, a vegetation alliance is "a category of vegetation classification which describes repeating patterns of plants across a landscape. Each alliance is defined by plant species composition, and reflects the effects of local climate, soil, water, disturbance, and other environmental factors" (Sawyer et al. 2009). Generally, Stantec's mapping and description of plant communities follows the classification system described in the MCVII. The MCVII is generally limited to communities that are native to or naturalized within California. Three of these plant communities occur within the BSA; however, one vegetation community and one land cover type discussed below are descriptive in nature and are not specifically referenced in the MCVII. The scientific and common names of each species detailed within this report correspond to those described in the second edition of *The Jepson Manual* (Baldwin et al. 2012).

Habitats observed within the BSA during the reconnaissance-level survey, where vegetated, were comprised primarily of common plant species and vegetation communities found in the coastal areas of southern California. Habitat conditions within the vegetated portions of the BSA were noted to be of generally good quality, with well-established communities comprised of native and non-native shrub and herbaceous species. Within the BSA, the Stantec Biologist mapped three plant communities defined by Sawyer et al. (2009), one additional plant community, and one land cover type. These are described below, summarized in Table 1, and depicted in Figure 2 included in Appendix A. Small, localized areas occupied by other plant communities were also observed within the BSA; however, the areas were less than the minimum mapping unit dictated by the size of the survey area and thus, were not mapped.

4.2.1 Vegetation Communities and Land Cover Types

4.2.1.1 Vegetation Communities

California Sagebrush Scrub
***Artemisia californica* Shrubland Alliance**

Approximately 0.22 acre of this community occurs within on distinct location in the central portion of the BSA. California sagebrush is co-dominant in the shrub canopy with California buckwheat (*Eriogonum*

fasciculatum). The sparse understory consists of non-native herbaceous species such as red brome (*Bromus rubens*), California barley (*Hordeum brachyantherum*), pride of Madeira (*Echium candicans*), and ice plant (*Carpobrotus edulis*).

Coyote Brush Scrub
***Baccharis pilularis* Shrubland Alliance**

Approximately 10.41 acres of this community occur within a large portion of the southern extent of the BSA on the open slope hillsides along Pacific Island Drive. This is the dominant vegetation community occupying open space within the BSA. Coyote bush (*Baccharis pilularis*) is co-dominant in the shrub canopy with California sagebrush (*Artemisia californica*), coffeeberry (*Frangula californica*), and toyon (*Heteromeles arbutifolia*). Other shrub and emergent tree species present within this community included laurel sumac (*Malosma laurina*), Monterey pine (*Pinus radiata*), bushy yate (*Eucalyptus conferruminata*), and lemonade berry (*Rhus integrifolia*).

Pampas Grass Patches
***Cortaderia selloana* Herbaceous Semi-Natural Alliance**

Approximately 0.26 acre of this community occurs within one district location in the southern portion of the BSA. Pampas grass (*Cortaderia selloana*) is dominant in the herbaceous and shrub canopies with telegraph weed (*Heterotheca grandiflora*) interspersed throughout. Emergent trees and shrubs are also present at low cover including a sparse mix of red tamarisk (*Tamarix ramosissima*), Goodding's willow (*Salix gooddingii*), narrow-leaved cattail (*Typha domingensis*), marsh fleabane (*Pluchea odorata*), and bull thistle (*Cirsium vulgare*).

Ruderal Herbaceous Scrub

Approximately 0.31 acre of this community occurs within the BSA, along Pacific Islands drive adjacent to the Project site. This area is generally disturbed, but undeveloped; and populated by ruderal pioneer species that readily colonize such disturbance. Lemonade berry and laurel sumac were present within this community, but the primary ruderal forbs include scotch broom (*Cytisus scoparius*), telegraph weed, rose fountain grass (*Cenchrus setacues*), and olive (*Olea europa*). These areas are sporadically interspersed with tree tobacco (*Nicotiana glauca*), Peruvian peppertree (*Schinus molle*), coastal rosemary (*Westringia fruticosa*), Jersey cudweed (*Pseudognaphalium luteoalbum*), desert wirelettuce (*Stephanomeria pauciflora*), English ivy (*Hedera helix*), Monterey pine, and Mexican fan palm (*Washingtonia robusta*). This mapped area did not appear to be regularly maintained.

4.2.1.2 Other Land Cover Types

Disturbed/Developed

This land cover type was used to map approximately 37.20 acres of the BSA that are developed. This land cover type occurs throughout the BSA. This area includes single-family residential neighborhoods, two private landscaped parks, paved roadways, landscaped areas, and the existing Moulton Niguel Water District Facility. In general, these areas include paved roadways and single-family homes. The vegetated

areas within this land cover type primarily consist of ornamental planters, associated with residential yards and landscaped areas. The most frequently observed species within these areas include curtain fig (*Ficus microcarpa*), pride of Madeira, hottentot fig (*Carpobrotus edulis*), jade plant (*Crassula ovata*), foxtail agave (*Agave attenuata)*, Monterey pine, olive, lemon-scented gum (*Corymbia citriodora*), Australian blackwood (*Acacia melanoxylon*), Mexican fan palm, Brazilian peppertree (*Schinus terebinthifolia)*, African iris (*Dietes bicolor),* and English ivy. These areas are generally maintained for weed control, precluding any significant growth of non-ornamental species, but may be sparsely interspersed with ruderal pioneer plant species that readily colonize open disturbed soil. These include prickly lettuce (*Lactuca serriola*), bull thistle, bristly oxtongue (*Helminthotheca echioides*), red brome, and Jersey cudweed.

Table 1: Vegetation Communities and Land Cover Types Occurring within the Biological Study Area and Impacts

Vegetation Community/Land Cover Type	Acreage within BSA	Acreage of Permanent Project Impacts
California Sagebrush Scrub	0.22	--
Coyote Brush Scrub	10.41	0.01
Pampas Grass Patches	0.26	0.02
Ruderal Herbaceous Scrub	0.31	0.07
Disturbed and Developed	37.20	0.48
Total	**48.40**	**0.58**

4.2.2 Common Plant Species Observed

Plants observed during the September 17, 2020 reconnaissance-level survey were recorded; however, a focused, floristic-level survey was not conducted. The reconnaissance-level survey resulted in the documentation of 70 species of native and non-native plants within the BSA, a detailed list of which is provided in Table 2.

Table 2: Plant Species Observed in the Biological Study Area

Scientific Name	Common Name
*Acacia melanoxylon**	Australian blackwood
*Agave attenuata**	foxtail agave
Artemisia californica	California sagebrush
*Baccharis halimifolia**	groundsel bush
Baccharis pilularis	coyote brush
*Bromus rubens**	red brome
*Bougainvillea glabra**	paper flower
*Callistemon citrinus**	crimson bottlebrush

Scientific Name	Common Name
*Carissa macrocarpa**	natal plum
*Carpobrotus edulis**	ice plant
*Cenchrus setacues**	rose fountain grass
*Ceratonia siliqua**	carob tree
*Cirsium vulgare**	bull thistle
*Cortaderia selloana**	pampas grass
*Crassula ovata**	jade plant
*Cupressus sempervirens**	Italian cypress
*Cytisus scoparius**	scotch broom
*Dietes bicolor**	African iris
*Dimorphotheca ecklonis**	cape marguerite
*Echium candicans**	pride of Madeira
*Erigeron bonariensis**	hairy fleabane
Erigeron canadensis	horseweed
*Eriobotrya japonica**	loquat
Eriogonum fasciculatum	California buckwheat
*Eucalyptus citriodora**	lemon-scented gum
*Eucalyptus conferruminata**	bushy yate
*Ficus microcarpa**	curtain fig
Frangula californica	coffeeberry
*Helminthotheca echioides**	bristly oxtongue
Heteromeles arbutifolia	toyon
Heterotheca grandiflora	telegraph weed
Hordeum brachyantherum	California barley
Isocoma menziesii	Menzie's goldenbush
*Jacaranda mimosifolia**	blue jacaranda
Juglans californica	California black walnut
*Juniperus horizontalis**	creeping juniper
*Lactuca serriola**	prickly lettuce
*Lantana camara**	western lantana
*Lavandula angustifolia**	English lavender
Ligustrum sp.*	privet
*Lonicera japonica**	Japanese honeysuckle
Malosma laurina	laurel sumac

Scientific Name	Common Name
*Nandina domesticus**	heavenly bamboo
*Nerium oleander**	oleander
*Nicotiana glauca**	tree tobacco
*Oenothera lindheimeri**	Lindheimer's beeblossom
*Olea europa**	Olive
*Paspalum dilatatum**	dallisgrass
*Phoenix canariensis**	Canary Island date palm
*Phoenix roebelenii**	pygmy date palm
*Phormium tenax**	New Zealand flax
*Plumbago auriculate**	cape leadwort
Pinus radiata	Monterey pine
*Pinus taeda**	loblolly pine
*Pittosporum tobira**	Japanese cheesewood
Platanus racemosa	Western sycamore
Pluchea odorata	marsh fleabane
*Pseudognaphalium luteoalbum**	Jersey cudweed
Rhus integrifolia	lemonade berry
Salix gooddingii	Goodding's willow
*Schinus mole**	Peruvian peppertree
*Schiuns terebinthifolia**	Brazilian peppertree
Stephanomeria pauciflora	desert wirelettuce
*Strelitzia reginae**	bird-of-paradise flower
*Syagrus romanzoffiana**	queen palm
*Tamarix ramosissima**	red tamarisk
*Tulbaghia violacea**	sweet garlic
*Westringia fruticose**	coastal rosemary
*Washington robusta**	Mexican fan palm
*Yucca gigantea**	spineless yucca

* Non-native Species

4.3 COMMON WILDLIFE

This section describes the common wildlife observed during the reconnaissance-level survey and those species expected to occur within the BSA based on habitat characteristics and species known to occur in the region. All wildlife species observed within the BSA are summarized in Table 3.

4.3.1 Terrestrial Invertebrates

As in all ecological systems, invertebrates inhabiting the BSA play a crucial role in a number of biological processes. They serve as the primary or secondary food sources for a variety of bird, reptile, and mammal predators; they provide important pollination vectors for numerous plant species; they act as components in controlling pest populations; and they support the naturally occurring maintenance of an area by consuming detritus and contributing to necessary soil nutrients. Though heavily urbanized, habitat conditions within the BSA provide a suite of microhabitat conditions for a wide variety of terrestrial insects and other invertebrates that are known to adapt to such disturbance. A focused insect survey was not performed within the BSA for this Project; however, common insects were observed during the reconnaissance-level survey, including species from the following orders: Aranidae (spiders), Coleoptera (beetles), Diptera (flies and mosquitoes), Lepidoptera (moths and butterflies) Hymenoptera (wasps, bees and ants).

4.3.2 Fish

Although storm drainage channels occur throughout much of the BSA, they remain dry under normal circumstances and do not contain habitat suitable to support aquatic species. The nearest aquatic habitats include the Pacific Ocean approximately one mile to the west and Aliso Creek approximately one mile to the northeast. Therefore, fish species were not observed in the BSA.

4.3.3 Amphibians

Amphibian species often require a source of standing or flowing water to complete their life cycle. However, some terrestrial species can survive in drier areas by remaining in moist environments found beneath leaf litter and fallen logs, or by burrowing into the soil. These species are highly cryptic and often difficult to detect. Downed logs, bark, and other woody material in various stages of decay (often referred to as coarse woody debris), which is generally not present within the BSA, provide shelter and feeding sites for a variety of wildlife, including amphibians and reptiles (Aubry et al. 1988; Maser and Trappe 1984).

Amphibian species were not observed during the reconnaissance-level survey within the BSA. Species not observed in the BSA, but known to occur in the area, include the garden slender salamander (*Batrachoseps major*) and arboreal salamander (*Aneided lugubris*). Based on the lack of aquatic habitat within the BSA, amphibians would not be expected to be permanent residents, though there is a low likelihood that they may be present as transients associated with storm drains within the BSA.

4.3.4 Reptiles

The number and type of reptile species that may occur at a given site is related to biotic and abiotic features present. These include the diversity of plant communities, substrates, soil types, and presence of refugia such as rock piles, boulders, and native debris. Many reptile species, even if present, are difficult to detect because they are cryptic and their life history characteristics (e.g., foraging, thermoregulatory behavior, fossorial nature, camouflage) limit their ability to be observed during a survey. Furthermore, many species are only active within relatively narrow thermal limits, avoiding both cold and hot conditions, and most

species take refuge in microhabitats that are not directly visible to the surveyor, such as rodent burrows, in crevices, under rocks and boards, and in dense vegetation, where they are protected from unsuitable environmental conditions and predators (USACE and CDFG 2010). In some cases, reptiles are only observed when flushed from their refugia. Weather conditions during the survey were favorable for reptile activity.

Two reptile species observed during the site reconnaissance were the western fence lizard (*Sceloporus occidentalis*) and the southern alligator lizard (*Elgaria multicarinata*). Although not observed, several other common reptiles are known to occur in the area including the southern Pacific rattlesnake (*Crotalus oreganus helleri*), San Diego gopher snake (*Pituophis catenifer annectens*), and California king snake (*Lampropeltis getula californiae*).

4.3.5 Birds

Birds were identified by sight and were observed throughout the BSA. The species observed included great egret (*Ardea alba*), brown pelican (*Pelecanus occidentalis*), California gull (*Larus californicus*), white-crowned sparrow (*Zonotrichia leucophrys*), house finch (*Haemorhous mexicanus*), house sparrow (*Passer domesticus*), Allen's hummingbird (*Selasphorus sasin*), Anna's hummingbird (*Calypte anna*), common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), rock pigeon (*Columba livia*), American bushtit (*Psaltriparus minimus*), turkey vulture (*Cathartes aura*), California towhee (*Melozone crissalis*), California scrub jay (*Aphelocoma californica*), northern mockingbird (*Mimus polyglottos*), black phoebe (*Sayornis nigricans*), Bell's sparrow (*Artemisiospiza belli*), common yellowthroat (*Geothlypis trichas*), yellow-breasted chat (*Icteria virens*), and house wren (*Troglodytes aedon*).

4.3.6 Mammals

Generally, the distribution of mammals on a given site is associated with the presence of factors such as access to perennial water, topographical and structural components (e.g., rock piles, vegetation) that provide cover and support prey base, and the presence of suitable soils for fossorial mammals (e.g., sandy areas).

Terrestrial mammal species observed during the survey included California ground squirrels (*Otospermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), and domestic dogs (*Canis familiaris*). An individual mule deer (*Odocoileus hemionus*) carcass was observed within a drainage channel along the vegetated slope west of Pacific Island Drive. Common mammals habituated to urban environments may move through the BSA, including striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and domestic species such as house cats (*Felis cattus*). Although not observed, the bobcat (*Lynx rufus*) is known to occur in the area.

Although bats were not detected in the BSA, they may forage and roost in the riparian corridors in the region where insect abundance is high (CDFW 2000). Because this type of foraging habitat does not occur within the BSA, it is unlikely that bats permanently inhabit or forage in significant numbers in the BSA.

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Table 3: Wildlife Species Observed in the BSA

Scientific Name	Common Name
Invertebrates	
Aranidae spp.	spiders
Coleoptera spp.	beetles
Diptera spp.	flies and mosquitoes
Hymenoptera spp.	wasps, bees and ants
Lepidoptera spp.	moths and butterflies
Reptiles	
Sceloporus occidentalis	western fence lizard
Elgaria multicarinata	southern alligator lizard
Birds	
Aphelocoma californica	California scrub jay
Ardea alba	great egret (soaring)
Artemisiospiza belli	Bell's sparrow
Calypte anna	Anna's hummingbird
Cathartes aura	turkey vulture (soaring)
Columba livia	rock pigeon
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Geothlypis trichas	common yellowthroat
Haemorhous mexicanus	house finch
Icteria virens	yellow-breasted chat
Larus californicus	California gull
Melozone crissalis	California towhee
Mimus polyglottos	northern mockingbird
Passer domesticus	house sparrow
Pelecanus occidentalis	brown pelican (soaring)
Psaltriparus minimus	American bushtit
Sayornis nigricans	black phoebe
Selasphorus sasin	Allen's hummingbird
Troglodytes aedon	house wren
Zenaida macroura	mourning dove
Zonotrichia leucophrys	white-crowned sparrow

Scientific Name	Common Name
Mammals	
Canis familiaris	domestic dog
Otospermophilus beecheyi	California ground squirrel
Odocoileus hemionus	mule deer (carcass)

4.4 JURISDICTIONAL WATERS/WETLANDS

There are four key agencies that regulate activities within inland streams, wetlands, and riparian areas in California, including the coastal zone: the USACE Regulatory Program regulates activities pursuant to Section 404 of the federal CWA and Section 10 of the Rivers and Harbors Act; the CDFW regulates activities under the FGC Sections 1600-1607; and the RWQCB regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

No jurisdictional features were observed within the BSA.

4.5 SOILS

Prior to conducting the delineation, historic soils data from the Natural Resources Conservation Service was used to determine potential soil types that may occur with the BSA; this data was used to determine where hydric soils have historically occurred (Appendix A, Figure 3). Table 4 identifies the soils historically known to occur within the BSA and provides a summary of characteristics of these soils.

Table 4: Historic Soil Units Occurring within the Biological Survey Area

Map Unit Symbol	Map Unit Name	Description	Acres within BSA
202	Soper gravelly loam, 30 to 50 percent slopes, MLRA 20	A well-drained soil associated with hills at elevations between 10 and 2,010 feet; high runoff; gravelly loam, gravelly clay loam, and bedrock; 22 to 36 inches to paralithic bedrock; parent material consists of residuum weathered from sandstone; minor components include Cieneba, Gabino, Yorba, Gaviota, Fontana, and Rock Outcrop.	36.80
222	Yorba gravelly sandy loam, 9 to 15 percent slopes	A well-drained soil associated with terraces at elevations between 100 and 2,500 feet; gravelly sandy loam to very gravelly sandy clay loam; more than 80 inches to restrictive feature; parent material consists of sandy and gravelly alluvium derived from mixed; very high runoff; minor components include Myford, Gabino, Soper, and Modjeska.	10.29
223	Yorba gravelly sandy loam, 15 to 30 percent slopes	A well-drained soil associated with terraces at elevations between 100 and 2,500 feet; gravelly sandy loam to very gravelly sandy clay loam; more than 80 inches to restrictive feature; parent material consists of sandy and gravelly alluvium derived from mixed; minor components include Gabino, Myford, Soper, and Modjeska.	1.30

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5.0 SPECIAL-STATUS BIOLOGICAL RESOURCES

The background information presented above combined with habitat assessments performed during the survey was used to evaluate special-status natural communities and special-status plant and wildlife taxa that either occur or may have the potential to occur within the BSA and adjacent habitats. For the purposes of this BRTR, special-status taxa are defined as plants or animals that:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under either the CESA or FESA
- Are candidate species being considered or proposed for listing under these same acts
- Are recognized as SSC by the CDFW
- Are ranked by CNPS as CRPR 1, 2, 3, or 4 plant species
- Are fully protected by the FGC, Sections 3511, 4700, 5050, or 5515
- Are of expressed concern to resource/regulatory agencies, or local jurisdictions

5.1 SPECIAL-STATUS NATURAL COMMUNITIES

Special-status natural communities are defined by CDFW (2009) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." All vegetation within the state is ranked with an "S" rank; however, only those that are of special concern (S1-S3 rank) are evaluated under CEQA.

Two vegetation communities identified within the BSA are listed as sensitive including California Sagebrush Scrub and Coyote Brush Scrub. The California Sagebrush Scrub community is a co-dominant alliance between California sagebrush and California buckwheat and has a state rank of S3/Vulnerable; vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state. The Coyote Brush Scrub community has a state rank of S5/Secure; common, widespread, and abundant in the state. The BSA does occur within the Orange County Central-Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan; however, the site is not within lands designated as "reserve" within the NCCP/HCP. None of these sensitive communities occur within proposed Project action area.

5.2 DESIGNATED CRITICAL HABITAT

Critical habitat is defined by the USFWS (2020) as, "…a term defined and used in the Endangered Species Act. It is specific geographic areas that contain features essential to the conservation of an endangered or threatened species and that may require special management and protection. Critical habitat may also include areas that are not currently occupied by the species but will be needed for its recovery."

There is Designated Critical Habitat for coastal California gnatcatcherwithin the Project site. Based on existing habitat conditions, there is a high likelihood of the species nesting and foraging within the BSA (USFWS 2020).

5.3 SPECIAL-STATUS PLANTS

Table 5 presents a list of special-status plants, including federally and state listed species and CRPR 1-4 species that are known to occur within 10 miles of the BSA or within the USGS 7.5-minute quadrangles including and surrounding the BSA (Appendix A, Figures 4a and 4b provide a depiction of known species locations).

Record searches of the CNDDB, the CNPS Online Inventory, and the Consortium of Critical Herbaria was performed for special-status plant taxa. Each of the taxa identified in the record searches was assessed for their potential to occur within the BSA based on the following criteria:

- **Present**: Taxa were observed within the BSA during the recent botanical survey or population has been acknowledged by CDFW, USFWS, or local experts.
- **High**: Both a documented recent record (within 10 years) exists of the taxa within the BSA or immediate vicinity (approximately 5 miles) and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- **Moderate**: Both a documented recent record (within 10 years) exists of the taxa within the BSA or the immediate vicinity (approximately 5 miles) and the environmental conditions associated with taxa presence are marginal or limited within the BSA, or the BSA is within the known current distribution of the taxa and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- **Low**: A historical record (over 10 years) exists of the taxa within the BSA or general vicinity (approximately 10 miles), and the environmental conditions (including soil type) associated with taxa presence are marginal or limited within the BSA.
- **Not Likely to Occur**: The environmental conditions associated with taxa presence do not occur within the BSA.

Table 5: Known and Potential Occurrences of Special-Status Plant Taxa within the Biological Study Area

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Aphanisma blitoides Aphanisma	**S2, 1B.2**	Coastal bluff scrub, coastal dunes, coastal scrub; on bluffs and slopes near the ocean in sandy or clay soils; 3-305 meters (m).	Feb-Jun	**Moderate:** Limited suitable habitat occurs within the BSA. The most recently recorded occurrence is 7 miles northwest of the BSA in 2019.
Atriplex coulteri Coulter's saltbush	**S1, 1B.2**	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland, ocean bluffs, ridgetops, as well as alkaline low places; alkaline or clay soils; 2-460 m.	Mar-Oct	**Moderate:** Limited suitable habitat occurs within the BSA, however, the BSA is outside the known elevation range for this species. The most recently recorded occurrence is approximately 7 miles northwest of the BSA from 2017.
Atriplex pacifica south coast saltscale	**S2, 1B.2**	Coastal scrub, coastal bluff scrub, playas, coastal dunes. Alkali soils. Elevation range: 1-400 m.	Mar-Oct	**Low:** There is limited marginally suitable habitat within the BSA, however, the preferred substrates do not occur and the BSA is outside the known elevation range for this species. The nearest and most recently recorded occurrence is approximately 3 miles to the southeast of the BSA from 2010.
Atriplex parishii Parish's brittlescale	**S1, 1B.1**	Native to Central and Southern California often found in dry lake beds, playas, and ephemeral vernal pools; saline and alkaline soils; 0-470 m.	Jun-Oct	**Not Likely to Occur:** No suitable habitat occurs within the BSA and the BSA is outside the known elevation range for this species. The nearest recorded occurrence is approximately 3 miles northwest of the BSA; however, this record is from over 100 years ago.
Atriplex serenana var. *davidsonii* Davidson's saltscale	**S1, 1B.2**	Coastal scrub, bluffs, chenopod scrub, playas, and vernal pools from southern California to Baja California; alkaline soils; 0-200 m.	Apr-Oct	**Not Likely to Occur:** No suitable habitat occurs within the BSA and the BSA is outside the known elevation range for this species. The nearest recorded occurrence is approximately 3 miles northwest of the BSA; however, this record is from over 100 years ago.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Brodiaea filifolia thread-leaved brodiaea	**FT, SE, S2, 1B.1**	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools; usually associated with annual grassland and vernal pools; often surrounded by shrubland habitats; occurs in openings on clay soils; 15- 1030 m.	Mar-Jun	**Moderate:** Suitable habitat occurs within the BSA. The nearest occurrence is approximately 2 miles north of the BSA from 2010.
Calochortus weedii var. *intermedius* intermediate mariposa-lily	**S2, 1B.2**	Chaparral, coastal scrub, valley and foothill grassland; rocky and calcareous substrates; 105-855 m.	May-Jul	**Moderate:** Suitable habitat occurs within the BSA. The nearest recorded occurrence borders the BSA to the northwest.
Centromadia parryi ssp. *australis* southern tarplant	**S2, 1B.1**	Marshes and swamps (margins), valley and foothill grasslands (vernally mesic), and vernal pools; often in disturbed sites near the coast at marsh edges; also, in alkaline soils sometimes with saltgrass; 0-480 m.	May-Nov	**Not Likely to Occur:** Suitable habitat does not occur within the BSA and the BSA is outside the known elevation range for this species. The nearest and most recently recorded occurrence is approximately 7 miles northwest of the BSA from 2017.
Chaenactis glabriuscula var. *orcuttiana* Orcutt's pincushion	**S1, 1B.1**	Coastal bluff scrub (sandy) and coastal dunes; occurs in sandy soils; 0-100 m.	Jan-Aug	**Low:** Marginally suitable habitat occurs within the BSA, however, and the BSA is outside the known elevation range for this species. The most recently recorded occurrence is approximately 3 miles southeast to the southeast of the BSA from 2010.
Comarostaphylis diversifolia ssp. *diversifolia* summer holly	**S2, 1B.2**	Chaparral, cismontane woodland; often in mixed chaparral in California, sometimes post-burn; 30-945 m.	Apr-Jun	**Moderate:** Suitable habitat occurs within the BSA. The most recently recorded occurrence is approximately 0.4 mile west of the BSA from 2016.
Dudleya blochmaniae ssp. *blochmaniae* Blochman's dudleya	**S2, 1B.1**	Coastal scrub, coastal bluff scrub, chaparral, valley and foothill grassland, open rocky slopes; often in shallow clays over serpentine or in rocky areas with little soil; 5-450 m.	Apr-Jun	**Low:** Marginally suitable habitat occurs within the BSA; however, substrates are not ideal and the BSA is outside the known elevation range for this species. The most recently recorded occurrence is approximately 3 miles southeast of the BSA from 2010.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Dudleya multicaulis many-stemmed dudleya	**S2, 1B.2**	Chaparral, coastal scrub, valley and foothill grassland; in heavy, often clayey soils or grassy slopes; 1-910 m.	Apr-Jul	**Low:** Marginally suitable habitat occurs within the BSA; however, substrates are not ideal. The nearest recorded occurrence is approximately 0.2 miles northwest of the BSA from 2005.
Dudleya stolonifera Laguna Beach dudleya	**FT, ST, S1, 1B.1**	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; in thin soil on north-facing sandstone cliffs; 5-185 m.	May-Jul	**Low:** Marginally suitable habitat occurs within the BSA; however, ideal substrates do not occur and the BSA is outside the known elevation range for this species. The nearest recorded occurrence is approximately 1 mile northwest of the BSA from nearly 30 years ago.
Dudleya viscida sticky dudleya	**S2, 1B.2**	Coastal scrub, coastal bluff scrub, chaparral, cismontane woodland; on north and south-facing cliffs and banks; 20-870 m.	May-Jun	**Low:** Marginally suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 8 miles to the east of the BSA from over 50 years ago.
Euphorbia misera cliff spurge	**S2, 2B.2**	Coastal bluff scrub, coastal scrub, Mojavean desert scrub; rocky sites; 3-430 m.	Dec-Aug (Oct)	**Low:** Marginally suitable habitat occurs within the BSA; however, substrates are not ideal and the BSA is outside the known elevation range for this species. The most recently recorded occurrence is approximately 10 miles northwest of the BSA from 2013.
Harpagonella palmeri Palmer's grapplinghook	**S3, 4.2**	Chaparral, coastal scrub, valley and foothill grassland; clay soils; open grassy areas within shrubland; 20-955 m.	Mar-May	**Moderate:** Marginally suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 3 miles southeast of the BSA; however, this record is from 30 years ago
Horkelia cuneata var. *puberula* mesa horkelia	**S1, 1B.1**	Chaparral, cismontane woodland, coastal scrub; sandy or gravelly sites; 15-1,645 m.	Feb-Jul (Sep)	**Moderate:** Marginally suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 8 miles northwest of the BSA; however, this record is from over 30 years ago.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Imperata brevifolia California satintail	**S3, 2B.1**	Coastal scrub, chaparral, riparian scrub, mojavean desert scrub, meadows and seeps (alkali), riparian scrub; mesic sites, alkali seeps, riparian areas; 3-1495 m.	Sep-May	**Low:** Marginally suitable habitat occurs within the BSA, but ideal substrates do not occur. The nearest and most recently recorded occurrence is approximately 7 miles northeast of the BSA; however, this record is from 25 years ago.
Isocoma menziesii var. *decumbens* decumbent goldenbush	**S2, 1B.2**	Coastal scrub, chaparral; sandy soils; often in disturbed sites; 1-915 m.	Apr-Nov	**Moderate:** Suitable habitat occurs within the BSA, but preferred substrates do not occur. The nearest and most recently recorded occurrence is approximately 2 miles northwest of the BSA from 2018.
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	**S2, 1B.1**	Marshes and swamps (coastal salt), playas, and vernal pools; usually found on alkaline soils in playas, sinks, and grasslands; 1-1,375 m.	Feb-Jun	**Not Likely to Occur:** Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 8 miles northwest of the BSA from 1998.
Lycium brevipes var. *hassei* Santa Catalina Island desert-thorn	**S1, 3.1**	Coastal bluff scrub, coastal scrub; 65-300 m.	Jun (Aug)	**Low:** Suitable habitat occurs within the BSA, however, the BSA is outside the known elevation range for this species. The nearest and most recently recorded occurrence is approximately 10 miles southeast of the BSA from 2017.
Nama stenocarpa mud nama	**S1, 2B.2**	Marshes and swamps, lake shores, riverbanks, intermittently wet areas; 5-500 m.	Jan-Jul	**Not Likely to Occur:** Suitable habitat does not occur within the BSA and the BSA is outside the known elevation range for this species. The nearest and most recently recorded occurrence is approximately 6 miles north of the BSA from 2001.
Navarretia prostrata prostrate vernal pool navarretia	**S2, 1B.2**	Coastal scrub, valley and foothill grassland, vernal pools, meadows and seeps; alkaline soils in grassland, or in vernal pools; mesic, alkaline sites; 3-1235 m.	April-June	**Low:** Marginally suitable habitat occurs within the BSA, but ideal substrates do not occur. The nearest and most recently recorded occurrence is approximately 3 miles northwest of the BSA; however, this observation was recorded 130 years ago.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Pentachaeta aurea ssp. *allenii* Allen's pentachaeta	**S1, 1B.1**	Valley and foothill grasslands, coastal scrub. Openings in scrub or grassland. 75-520 m.	Mar-Jun	**Moderate:** Marginally suitable habitat occurs within the BSA and the BSA is outside the known elevation range for this species. The nearest recorded occurrence is approximately 0.5 mile southeast of the BSA from 2004.
Pseudognaphalium leucocephalum white rabbit-tobacco	**S2, 2B.2**	Riparian woodland, cismontane woodland, coastal scrub, chaparral; sandy, gravelly sites; 35-515 m.	(Jul) Aug-Nov (Dec)	**Low:** Suitable habitat occurs within the BSA, however, the BSA is outside the known elevation range for this species. The nearest recorded occurrence is approximately 3 miles to the east of the BSA from 35 years ago.
Quercus dumosa Nuttall's scrub oak	**S3, 1B.1**	Closed-cone coniferous forest, chaparral, coastal scrub; generally, on sandy soils near the coast; sometimes on clay loam; 15-640 m.	Feb-May (May-Aug)	**High:** Suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 0.3 mile southeast of the BSA from 2017.
Senecio aphanactis chaparral ragwort	**S2, 2B.2**	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline environments; 15-800 m.	Jan-Apr (May)	**Moderate:** Suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 3 miles southeast of the BSA from 2017.
Sidalcea neomexicana salt spring checkerbloom	**2B.2**	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub; alkali springs and marshes. 15-1530 m.	March-June	**Moderate:** Marginally suitable habitat occurs within the BSA, but substrates are not ideal. The nearest and most recently recorded occurrence is approximately 7 miles northeast of the BSA from 2014.
Suaeda esteroa estuary seablite	**S2, 1B.2**	Marshes and swamps; coastal salt marshes in clay, silt, and sand substrates; 0-80 m.	(May) Jul-Oct (Jan)	**Not Likely to Occur:** Suitable habitat does not occur within the BSA and the BSA is outside the known elevation range for this species. The nearest and most recently recorded occurrence is approximately 10 miles southeast of the BSA.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Verbesina dissita big-leaved crownbeard	**FT, ST, S2, 1B.1**	Chaparral, coastal scrub; steep, rocky, primarily north-facing slopes within 1.5 miles of the ocean, in gravelly soils; 150-245 m.	(Mar) Apr-Jul	**Not Likely to Occur:** Limited suitable habitat occurs within the BSA, however, the BSA is outside the known elevation range for this species The nearest and most recently recorded occurrence is approximately 0.2-mile northwest of the BSA in 2016.

Status Codes

Federal Designation

FE = Federally Endangered

Federal Candidate = Candidate Species for Listing

CDFW State Designation

SE = State Endangered

ST = State Threatened

State Ranking

S1 = Critically Imperiled

S2 = Imperiled

S3 = Vulnerable

S4 = Apparently Secure

S5 = Secure

CNPS CRPR Designation

1A = Plants considered by the CNPS to be extinct in California

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

2A. Presumed extinct in California, extant and more common elsewhere

2B. Rare or Endangered in California, more common elsewhere

3. Plants for which we need more information - Review list

4. Plants of limited distribution - Watch list

.1 = Seriously threatened in California (high degree/immediacy of threat).

.2 = Fairly threatened in California (moderate degree/immediacy of threat).

BSA = Biological Study Area

m = meter

5.4 SPECIAL-STATUS WILDLIFE

Special-status taxa include those listed as threatened or endangered under the FESA or CESA, taxa proposed for such listing, SSC, and other taxa that have been identified by USFWS, CDFW, or local jurisdictions as unique or rare and that have the potential to occur within the BSA. The only special-status species observed within the BSA was the California brown pelican; however, this individual was observed soaring over the BSA.

The CNDDB was queried for occurrences of special-status wildlife taxa within the USGS topographical quadrangles in which the BSA occurs and the eight surrounding quadrangles, as discussed in Section 2.0. Table 6 summarizes the special-status wildlife taxa known to occur regionally and their potential for occurrence in the BSA (Appendix A, Figures 4a and 4c provide a depiction of previously reported species locations). Each of the taxa identified in the database reviews/searches were assessed for its potential to occur within the BSA based on the following criteria:

- **Present**: Taxa (or sign) were observed in the BSA or in the same watershed (aquatic taxa only) during the most recent survey, or a population has been acknowledged by CDFW, USFWS, or local experts.
- **High**: Habitat (including soils) for the taxa occurs onsite, and a known occurrence occurs within the BSA or adjacent areas (within 5 miles of the BSA) within the past 20 years; however, these taxa were not detected during the most recent survey.
- **Moderate**: Habitat (including soils) for the taxa occurs onsite, and a known regional record occurs within the database search, but not within 5 miles of the BSA or within the past 20 years; or a known occurrence occurs within 5 miles of the BSA and within the past 20 years and marginal or limited amounts of habitat occurs onsite; or the taxa's range includes the geographic area and suitable habitat exists.
- **Low**: Limited habitat for the taxa occurs within the BSA and no known occurrences were found within the database search and the taxa's range includes the geographic area.
- **Not Likely to Occur**: The environmental conditions associated with taxa presence do not occur within the BSA.

Table 6: Known and Potential Occurrences of Special-Status Wildlife Taxa within the Biological Study Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
INVERTEBRATES					
Bombus crotchii	Crotch bumble bee	**SC, SA**	Coastal California east to the sierra-cascade crest and south into Mexico. Food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	Limited suitable habitat occurs within the BSA. California buckwheat (*Eriogonum fasciculatum*) is a co-dominant species within California Sagebrush Scrub vegetation community within the BSA. The most recently recorded occurrence is approximately 7 miles northeast of the BSA from 2006.	**Moderate**
Branchinecta sandiegonensis	San Diego fairy shrimp	**FE, SA**	Endemic to San Diego and Orange County mesas. Vernal pools.	Vernal pool habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 7 miles northeast of the BSA from 2010.	**Not Likely to Occur**
Danaus plexippus (pop. 1)	monarch butterfly – California overwintering population	**SA**	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile creek in Mendocino County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation. Roosts in wind-protected tree groves (eucalyptus, pine, cypress), with nectar and water sources nearby.	Marginally suitable foraging habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 3 miles southeast of the BSA from 2011.	**Moderate**
FISH					
Eucyclogobius newberryi	tidewater goby	**FE, SSC, SA**	Brackish water habitats along the California Coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need relatively still but not stagnant water and high oxygen levels.	Aquatic habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 0.7-mile northwest of the BSA from 1996.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Gila orcuttii	arroyo chub	**SSC, SA**	Native to streams from Malibu creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave, and San Diego River basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates. Found in habitats characterized by slow-moving water, mud or sand substrate, and depths greater than 40 cm. Most abundant in low gradient pools that support at least some aquatic vegetation.	Aquatic habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 3 miles southeast of the BSA from 1998.	**Not Likely to Occur**
Oncorhynchus mykiss irideus (pop. 10)	steelhead - southern California DPS	**FE, SA**	Inhabits seasonally accessible rivers and streams with gravel for spawning. Requires sufficient flows in their natal streams to be able to return from oceans and lakes to spawn. Federal listing refers to populations from Santa Maria River south to the southern extent of the range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerance to warmer water and more variable conditions.	Aquatic habitat does not occur within the BSA. The nearest recorded occurrence is approximately 0.7-mile northwest of the BSA.	**Not Likely to Occur**
AMPHIBIANS					
Anaxyrus californicus	arroyo toad	**SE, SSC, SA**	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	Aquatic habitat does not occur within the BSA. The nearest recorded occurrence is approximately 6 miles east of the BSA from 2011.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Spea hammondii	western spadefoot	**SSC, SA**	Occurs in the Central Valley and adjacent foothills and the non-desert areas of Southern California and Baja California. Grassland habitats and valley-foothill hardwood woodlands. Vernal pools and other temporary rain pools, cattle tanks, and occasionally pools of intermittent streams are essential for breeding and egg-laying. Burrows in loose soils during dry season.	Aquatic habitat does not occur within the BSA; however, the species may occur as a transient within storm drains. The nearest recorded occurrence is within the BSA from over 50 years ago.	**Low (transient)**
REPTILES					
Anniella stebbinsi	Southern California legless lizard	**SSC, SA**	Generally, south of the transverse range, extending to northwestern Baja California; occurs in sandy or loose loamy soils under sparse vegetation; disjunct populations in the Tehachapi and Piute mountains in Kern County; variety of habitats; generally, in moist, loose soil; they prefer soils with a high moisture content.	Suitable habitat is present within the BSA. The nearest and most recently recorded occurrence is approximately 2 miles east of the BSA; however, this occurrence was recorded over 80 years ago in 1940.	**Moderate**
Arizona elegans occidentalis	California glossy snake	**SSC, SA**	Inhabits arid scrub, rocky washes, grasslands, and chaparral. Appear to prefer microhabitats of open areas with soil loose enough for easy burrowing.	Marginally suitable habitat is present within the BSA. The nearest recorded occurrence is approximately 3 miles east of the BSA; however, this occurrence was recorded well over 70 years ago in 1946. Moderately suitable habitat is present within the BSA, outside of the proposed Project activities.	**Low**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Aspidoscelis hyperythra	orange-throated whiptail	**WL, SA**	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of bush and rocks. Perennial plants necessary for its major food: termites.	Limited marginally suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 1 mile west of the BSA; however, it should be noted that this occurrence was recorded over 30 years ago in 1990. A more recent occurrence was recorded in 2005 approximately 6 miles to the northeast of the BSA.	**Low**
Aspidoscelis tigris stejnegeri	coastal whiptail	**SSC, SA**	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	Limited suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 1-mile northwest of the BSA from 2001.	**Moderate**
Crotalus ruber	red-diamond rattlesnake	**SSC, SA**	Range stretches from southwestern California to Cabo San Lucas and some offshore islands. Prefers coastal sage scrub, rocky hillsides, and outcrops. Also occupies lower woodlands and cultivated fields.	Suitable habitat occurs within the BSA. The most recently recorded occurrence is approximately 7 miles east of the BSA in 2001.	**Moderate**
Emys marmorata	western pond turtle	**SSC, SA**	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometer from water for egg-laying.	Aquatic habitat does not occur within the BSA. The nearest recorded occurrence is approximately 0.7 mile to the northwest of the BSA from 2001.	**Not Likely to Occur**
Phrynosoma blainvillii	coast horned lizard	**SSC, SA**	Primarily in sandy soil in open areas, especially sandy washes, and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs west of the deserts from northern Baja California north to Shasta County below 2,400 meters (8,000 feet) elevation.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 1 mile northwest of the BSA.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Thamnophis hammondii	two-striped gartersnake	**SSC, SA**	Coast California from vicinity of Salinas to northwest Baja California. From sea level to about 7,000 feet elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Aquatic habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 6 miles northeast of the BSA from 2005.	**Not Likely to Occur**
BIRDS					
Accipiter cooperii	Cooper's hawk	**WL, SA**	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.	Limited suitable habitat occurs within the BSA, particularly in the landscaped woodland along the northeast and eastern margins of the BSA. The nearest recorded occurrence is approximately 2.2 miles to the east of the BSA from 2005.	**High (foraging and nesting)**
Agelaius tricolor	tricolored blackbird	**ST, SSC, BCC, SA**	Highly colonial species, most numerous in the Central Valley and vicinity, and largely endemic to California. Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules but also in thickets of willow, blackberry, wild rose, and tall herbs. Forages in grassland and cropland habitats with insect prey within a few kilometers of the colony. They are itinerant breeders, nesting more than once at different locations during the breeding season.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 3 miles northeast of the BS from 2014.	**Not Likely to Occur**
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	**WL, SA**	Resident in southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Suitable habitat does occur within the BSA. The nearest recorded occurrence is approximately 2 miles northwest of the BSA from 2002.	**High**
Ammodramus savannarum	grasshopper sparrow	**SSC, SA**	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	Limited suitable foraging habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 8 miles north of the BSA from 2003.	**Low**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Asio otus	long-eared owl	**SSC, SA**	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 9 miles northeast of the BSA; however, this recorded occurrence is from well over 30 years ago in 1984.	**Not Likely to Occur**
Athene cunicularia	burrowing owl	**SSC, BCC, SA**	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Owls are found in microhabitats highly altered by humans, including flood risk management and irrigation basins, dikes, banks, abandoned fields surrounded by agriculture, and road cuts and margins. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 7 miles east of the BSA from 2005.	**Not Likely to Occur**
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	**SSC, BCC, SA**	Southern California coastal sage scrub. Wrens require tall *Opuntia* cactus for nesting and roosting.	Suitable foraging habitat occurs within the BSA. Limited suitable nesting habitat occurs within the BSA associated with a localized section of *Opuntia* within a landscaped area along Pacific Island Drive. The nearest recorded occurrence is approximately 2 miles southeast of the BSA; however, this occurrence was recorded over 3 years ago in 2017.	**Moderate (foraging)/Low (nesting)**
Elanus leucurus	white-tailed kite	**SA**	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 1 mile southeast of the BSA from 2009.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Empidonax traillii extimus	southwestern willow flycatcher	**FE, SE, SA**	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern U.S.	Suitable foraging and nesting habitat do not occur within the BSA. The species may pass through the site in a transient capacity during migration. The nearest and most recently recorded occurrence is approximately 8 miles east of the BSA from 2009.	**Not Likely to Occur (foraging/nesting)/ Low (transient)**
Eremophila alpestris actia	California horned lark	**WL, SA**	Coastal regions, chiefly from Sonoma County to San Diego County. Also, main part of San Joaquin Valley and east to foothills. Short-grass prairie, “bald” hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 8 miles north of the BSA from 2003.	**Not Likely to Occur**
Icteria virens	yellow-breasted chat	**SSC, SA**	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests, in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft. of ground.	The species was observed within the BSA. No suitable nesting habitat occurs within the BSA; however, the species may forage within the BSA. The nearest recorded occurrence is approximately 5 miles northwest of the BSA from 2016.	**Present**
Passerculus sandwichensis beldingi	Belding’s savannah sparrow	**SE, SA**	Locally common non-migratory resident of coastal saltmarsh. An obligate breeder in middle elevation saltmarsh, nearly always characterized by pickleweed (*Salicornia* spp.), either in tidal situations or non-tidal alkaline flats nearby. Foraging primarily stems from saltmarsh and mudflat, individuals, particularly post-breeding birds, can be found foraging in a wide variety of habitats including upper marsh, adjacent ruderal and ornamental vegetation, open beach and mudflat, and even dirt and gravel parking lots.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 8 miles northwest of the BSA from 2006.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Polioptila californica californica	coastal California gnatcatcher	**FE, SSC, SA**	Obligate, permanent resident of coastal sage scrub below 2500 feet in Southern California. Low, coastal sage scrub in arid washes and on mesas and slopes with California sagebrush (*Artemisia californica*) as a dominant or co-dominant species. Not all areas classified as coastal sage scrub are occupied.	Suitable nesting habitat occurs within the BSA. The nearest recorded occurrence is approximately 1 mile southeast of the BSA from 1991; however, a more recent occurrence was recorded in 2016 approximately 7 miles southeast of the BSA.	**Moderate**
Setophaga petechia	yellow warbler	**SSC, BCC, SA**	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets and in other riparian plants including cottonwoods, sycamores, ash, and alders.	No suitable nesting habitat occurs within the BSA; however, the species may forage within the BSA. The nearest and most recently recorded occurrence is approximately 5 miles northwest of the BSA from 2016.	**Not Likely to Occur (nesting)/ Moderate (foraging/transient)**
Vireo bellii pusillus	least Bell's vireo	**FE, SE, SA**	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 feet. Often inhabits structurally diverse woodlands along watercourses including cottonwood-willow and oak woodlands and mulefat scrub. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, *Baccharis*, or mesquite.	No suitable nesting habitat occurs within the BSA; however, the species may forage within the BSA. The nearest recorded occurrence is approximately 2 miles northwest of the BSA from 2011.	**Not Likely to Occur (nesting)/ Low (foraging/transient)**
MAMMALS					
Antrozous pallidus	pallid bat	**SSC, SA**	Desert, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats form high temperatures. Very sensitive to disturbance of roosting sites.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 7 miles east of the BSA; however, this observation was recorded over 20 years ago in 1998.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Chaetodipus californicus femoralis	Dulzura pocket mouse	**SSC, SA**	Variety of habitats including coastal scrub, chaparral, and grassland in San Diego County. Attracted to grass-chaparral edges.	Suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence to the BSA is approximately 2 miles southeast of the BSA; however, this occurrence was recorded over 80 years ago in 1932.	**Moderate**
Choeronycteris mexicana	Mexican long-tongued bat	**SSC, SA**	Occasionally found in San Diego County, which is on the periphery of their range. Feeds on nectar and pollen of night blooming succulents. Roosts in relatively well-lit caves, and in and around buildings.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence in approximately 8 miles southeast of the BSA; however, this occurrence was recorded over 20 years ago in 1993.	**Not Likely to Occur**
Eumops perotis californicus	western mastiff bat	**SSC, SA**	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral. Roosts in crevices in cliff faces, high buildings, bridges, trees, and tunnels. In California, most records are from rocky areas at low elevations.	No suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 2 miles northeast of the BSA.	**Not Likely to Occur**
Myotis yumanensis	Yuma myotis	**SA**	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings, or crevices.	No suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 4 miles northeast of the BSA; however, this occurrence was recorded over 20 years ago in 1993.	**Not Likely to Occur**
Neotoma lepida intermedia	San Diego desert woodrat	**SSC, SA**	Coastal scrub of southern Californiafrom San Diego County north to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes.	Suitable habitat occurs within the BSAs. The nearest and most recently recorded occurrence is approximately 3 miles southeast of the BSA from 2002.	**High**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Nyctinomops macrotis	big free-tailed bat	**SSC, SA**	Prefer rugged, rocky terrain. Often forages over water sources. Roosts in buildings, caves, and occasionally in holes in trees. Also roosts in crevices in high cliffs or rock outcrops.	The nearest recorded occurrence is approximately 10 miles northwest of the BSA; however, this occurrence was recorded over 30 years ago in 1988. Limited roosting and foraging habitat occur within the BSA.	**Low**
Perognathus longimembris pacificus	Pacific pocket mouse	**FE, SSC, SA**	An obligate resident of fine-grained sandy soils of coastal strand, coastal dunes, river and marine alluvium, and coastal sage scrub in close proximity to the ocean and has never been collected more than 2 miles from the coast. Occurrences are closely associated with loose or friable soils that permit burrowing.	Marginally suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 3 miles southeast of the BSA from over 20 years ago in 2009.	**Low**

Federal Rankings:
FE = Federally Endangered
FD = Federally Delisted
BCC = USFWS Bird of Conservation Concern

State Rankings:
S1 = Critically Imperiled
S2 = Imperiled
S3 = Vulnerable
S4 = Apparently Secure
S5 - Secure
SC = State Candidate for Listing
SD = State Delisted
SA = CDFW Special Animal
SE = State Endangered
ST = State Threatened
FP= Fully Protected
SSC = Species of Special Concern
WL = Watchlist

BSA=Biological Study Area
CNDDB =California Natural Diversity Database

5.5 WILDLIFE CORRIDORS AND SPECIAL LINKAGES

Linkages and corridors facilitate regional animal movement and are generally centered in or around waterways, riparian corridors, flood control channels, contiguous habitat, and upland habitat. Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals.

As the movements of wildlife species are more intensively studied using radio-tracking devices, there is mounting evidence that some wildlife species do not necessarily restrict their movements to some obvious landscape element, such as a riparian corridor. For example, recent radio-tracking and tagging studies of Coast Range newts (*Taricha torosa*), California red-legged frogs (*Rana aurora draytonii*), western pond turtles, and two-striped garter snakes (*Thamnophis hammondii*) found that long-distance dispersal involved radial or perpendicular movements away from a water source with little regard to the orientation of the assumed riparian "movement corridor" (Bulger et al. 2002; Hunt 1993; Ramirez 2002, 2003a, 2003b; Rathbun et al. 1992; Trenham 2002). Likewise, carnivores do not necessarily use riparian corridors as movement corridors, frequently moving overland in a straight line between two points when traversing large distances (Beier 1993, 1995; Newmark 1995; Noss et al. 1996, n.d.). In general, the following corridor functions can be utilized when evaluating impacts to wildlife movement corridors:

- Movement corridors are physical connections that allow wildlife to move between patches of suitable habitat. Simberloff et al. (1992) and Beier and Loe (1992) correctly state that for most species, we do not know what corridor traits (length, width, adjacent land use, etc.) are required for a corridor to be useful. But, as Beier and Loe (1992) also note, the critical features of a movement corridor may not be its physical traits but rather how well a particular piece of land fulfills several functions, including allowing dispersal, plant propagation, genetic interchange, and recolonization following local extirpation.

- Dispersal corridors are relatively narrow, linear landscape features embedded in a dissimilar matrix that link two or more areas of suitable habitat that would otherwise be fragmented and isolated from one another by rugged terrain, changes in vegetation, or human-altered environments. Corridors of habitat are essential to the local and regional population dynamics of a species because they provide physical links for genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities.

- Habitat linkages are broader connections between two or more habitat areas. This term is commonly used as a synonym for a wildlife corridor (Meffe and Carroll 1997). Habitat linkages may themselves serve as source areas for food, water, and cover, particularly for small- and medium-size animals.

- Travel routes are usually landscape features, such as ridgelines, drainages, canyons, or riparian corridors, within larger natural habitat areas that are frequently used by animals to facilitate movement and provide access to water, food, cover, den sites, and other necessary resources. A travel route is generally preferred by a species because it provides the least amount of topographic resistance in moving from one area to another yet still provides adequate food, water, or cover (Meffe and Carroll 1997).

- Wildlife crossings are small, narrow areas of limited extent that allow wildlife to bypass an obstacle or barrier. Crossings typically are human-made and include culverts, underpasses, drainage pipes, bridges, tunnels to provide access past roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent “choke points” along a movement corridor because useable habitat is physically constricted at the crossing by human-induced changes to the surrounding areas (Meffe and Carroll 1997).

5.5.1 Wildlife Movement in the BSA

The BSA is in a developed residential area with large areas of open space consisting of natural vegetation. The BSA is amid conditions that would be expected to generally constrain the movement of wildlife within the region and, by extension, through the site. The area surrounding the BSA is characterized by residential and urban development and infrastructure, including significant barriers to terrestrial wildlife movement such as buildings, fencing, and busy multi-lane roadways. These areas may harbor common species habituated to life in urban environments such as Virginia opossum, raccoon, desert cottontail, California ground squirrel, and other small rodents. The localized portions of open area likely provide “live-in habitat,” foraging habitat, or habitat for transient and migratory species.

The BSA is within the Pacific Flyway, a major north-south flyway for migratory birds in America, extending from Alaska to Patagonia. Each year, at least one billion birds migrate along the Pacific Flyway (Audubon 2020).

Within the BSA, the level of surrounding urban development, presence of physical barriers, and lack of native habitat outside of the California Sagebrush Scrub and Coyote Brush Scrub vegetation communities included in the areas of open space, would significantly constrain the passage of most large terrestrial wildlife known to occur in the region. Badlands Park and Aliso and Wood Canyons Wilderness Park border the western boundary of the BSA. Aliso and Wood Canyons Wilderness Park encompasses 4,500 acres of wilderness and natural open space, and is designated as a wildlife sanctuary; however, terrestrial wildlife corridors between the BSA and these wilderness and open space areas are constrained by residential development, roadways, and fencing. Based on the location of the site, which is surrounded on three sides by development, and the existing habitat types, the site does not function as a wildlife movement corridor. The nearest linkage landscape linkage is approximately 4.4 miles northwest of the BSA linking Aliso and Wood Canyons Wilderness Park and Laguna Coast Wilderness Park, but there are no known wildlife movement corridors or habitat linkages as identified by the South Coast Wildlands (2008) or Penrod et al (2001) within the immediate vicinity.

6.0 REFERENCES

Aubry, K. B., L. L. C. Jones, and P. A. Hall. 1988. Use of woody debris by plethodontid salamanders in Douglas-fir in Washington. Pages 32-37 in R. C. Szabo, K. E. Severson, and D. R. Patton, technical coordinators. Management of amphibians, reptiles and small mammals in North America. General technical report RM-166. U.S. Forest Service, Rocky Mountain Research Station, Fort Collins, Colorado.

Audubon. 2020. The Pacific Flyaway. Available online at: http://www.audubon.org/pacific-flyway. Accessed September 2020.

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken (eds.) 2012. *The Jepson Manual: Vascular Plants of California*, 2nd ed. University Press, Berkeley, California.

Beier, P. 1993. Determining minimum habitat areas and habitat corridors for cougars. *Conservation Biology*, 7: 94-108.

_____. 1995. Dispersal of juvenile cougars in fragmented habitat. *Journal of Wildlife Management* 59:228–237.

Beier, P. and S. Loe. 1992. A checklist for evaluating impacts to wildlife movement corridors. *Wildlife Society Bulletin* 20: 434-440.

Bulger, J., N. Scott, and R. Seymour. 2002. Terrestrial activity and conservation of adult California red-legged frogs (*Rana aurora draytonii*) in coastal forests and grasslands. *Biol. Conservation* 15: 234-245.

CCH (Consortium of California Herbaria). 2020. California Vascular Plant Online Database. Available online at: http://ucjeps.berkeley.edu/consortium/. Accessed September 2020.

CDFW (California Department of Fish and Wildlife). 2020a. RAREFIND database ed.3.1.1. Electronic database managed by the California Natural Diversity Data Base, Wildlife Data and Habitat Analysis Branch, California Department of Fish and Wildlife. Sacramento, CA.

_____. 2020b. State and Federally Listed Endangered and Threatened Animals of California. July.

_____. 2020c. Special Animals List. July.

_____. 2020d. State and Federally Listed Endangered and Threatened Plants of California. January.

_____. 2020e. California Sensitive Natural Communities. September.

_____. 2009. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. Sacramento, California.

_____. 2000. “Spotted Bat.” California Wildlife Habitat Relationships System California Department of Fish and Game California Interagency Wildlife Task Group.

_____. 1994. A Field Guide to Lake and Streambed Alteration Agreements Section 1600-1607, California Department of Fish and Game Code. Environmental Services Division. Sacramento, California. January.

City of Laguna Niguel. 2012. City of Laguna Niguel Official Zoning Code Map. Available online at: https://www.cityoflagunaniguel.org/DocumentCenter/View/702/Zoning-Map?bidId=. Accessed September 2020.

_____. 1992. City of Laguna Niguel General Plan. Available online at: https://www.cityoflagunaniguel. org/132/General-Plan. Accessed September 2020.

CNPS (California Native Plant Society). 2020. Inventory of rare and endangered plants. California Native Plant Society. Sacramento. Online: http://www.cnps.org/inventory. Accessed September 2020.

County of Orange. 2005. County of Orange General Plan. Accessed online at: https://www.ocgov.com/ gov/pw/cd/planning/generalplan2005.asp. Accessed September 2020.

_____. 1996. Natural Community Conservation Plan & Habitat Conservation Plan County of Orange Central & Coastal Subregion. Available online at: https://occonservation.org/about-ncc/. Accessed September 2020.

Cowardin, L.M., V. Carter V., F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31.Washington, D.C.

Hunt, L.E. 1993. Relocation and movements of southwestern pond turtles (*Clemmys marmorata pallida*), upper Santa Ynez River, Santa Barbara County, California. Prep. For the City of Santa Barbara and U.S. Forest Service. 135 pp.

Maser, C. and J.M. Trappe, tech eds. 1984. The seen and unseen world of the fallen tree. Gen. Tech. Rep. PNW-164. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 56 p.

Meffe, G.K. and C.R. Carroll. 1997. Principles of conservation biology. Sinauer Associates, New York, NY.

Newmark, W. 1995. Extinction of mammal populations in western North American national parks. *Conservation Biology*, 9: 512-526.

Noss, R., P. Beier, and W. Shaw. N.d. Evaluation of the Coal Canyon biological corridor, Los Angeles, Orange, Riverside, and San Bernardino counties, California. Unpub. Ms. 19 pp

Noss, R., H. Quigley, M. Hornocker, T. Merrill, and P. Paquet. 1996. Conservation biology and carnivore conservation in the Rocky Mountains. *Conservation Biology* 10:949-963.

Penrod, K., R. Hunter, and M. Merrifield. 2001. Missing Linkages: Restoring Connectivity to the California Landscape, Conference Proceedings. Co-sponsored by California Wilderness Coalition, The Nature Conservancy, U.S. Geological Survey, Center for Reproduction of Endangered Species, and California State Parks.

Ramirez, R. 2003a. Arroyo toad (*Bufo californicus*) radio telemetry study, San Juan Creek, Orange County, California. Prep. For Rancho Mission Viejo LLC, San Juan Capistrano, CA. October. 64 pp.

_____. 2003b. Arroyo toad (*Bufo californicus*) hydrogeomorphic habitat baseline analysis/radio telemetry study, Rancho Las Flores, San Bernardino County, CA. November. 110 pp.

_____. 2002. Arroyo toad (*Bufo californicus*) radio telemetry and pitfall trapping studies, Little Horsethief Canyon, Summit Valley Ranch, San Bernardino County, California. Prep. For CALTRANS, Dept. of Transportation, San Bernardino, CA. April. 92 pp. Rathbun, G.N. Siepel, and D. Holland. 1992. Nesting behavior and movements of western pond turtles (*Clemmys marmorata*). *Southwestern Naturalist* 37(3):319-324.

Sawyer, J.O., T. Keeler-Wolf and J.M. Evens. 2009. *Manual of California Vegetation*, Second Edition. California Native Plant Society, Sacramento, California.

Simberloff, D., J.A. Farr, J. Cox and D.W. Mehlman. 1992. Movement corridors: Conservation bargains or poor investments? *Conservation Biology* 6(4): 493-504.

South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. Produced in cooperation with partners in the South Coast Missing Linkages Initiative. Available online at http://www.scwildlands.org. Accessed September 2020.

Trenham, P. 2002. Herpetologist, USGS. Conversation regarding dispersal movements of radio-tagged California newts (*Taricha torosa*) in Monterey County, California. June.

USACE and CDFG (United States Army Corps of Engineers and California Department of Fish and Game). 2010. Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Joint Environmental Impact Statement and Environmental Impact Report. SCH No. 2000011025.

USFWS (United States Fish and Wildlife Service). 2020. Critical Habitat. Available online at https://www.fws.gov/endangered/what-we-do/critical-habitats-faq.html. Accessed September 2020.

Appendix A FIGURES

Project Location

0 1,000 2,000 Feet

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Stantec

Project Location	Prepared by DL on 2020-08-20
	TR by ST on 2020-08-20
Orange County, California	IR by JC on 2020-08-20
Client/Project	184031336

Moulton Niguel Water District
1050-Zone Secondary Feed Pump Station
& Transmission Main
Biological Resources Technical Report

Figure No.
1

Title
Project Location Map

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020.
3. Background: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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Biological Study Area
Project Location

Vegetation Communities & Land Cover Types

- California Sagebrush Scrub (0.22 Acres) Coyote
- Brush Scrub (10.41 Acres)
- Disturbed/ Developed (37.20 Acres)
- Pampas Grass Patch (0.26 Acres)
- Ruderal Herbaceous Scrub (0.31 Acres)

0 150 300 Feet
(At original document size of 8.5x11)
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Stantec

Project Location
Orange County, California

Prepared by DL on 2020-08-20
TR by ST on 2020-08-20
IR by JC on 2020-08-20

Client/Project 184031336
Moulton Niguel Water District
1050-Zone Secondary Feed Pump Station
& Transmission Main
Biological Resources Technical Report

Figure No.
2

Title
Vegetation Communities & Land Cover Types

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020.
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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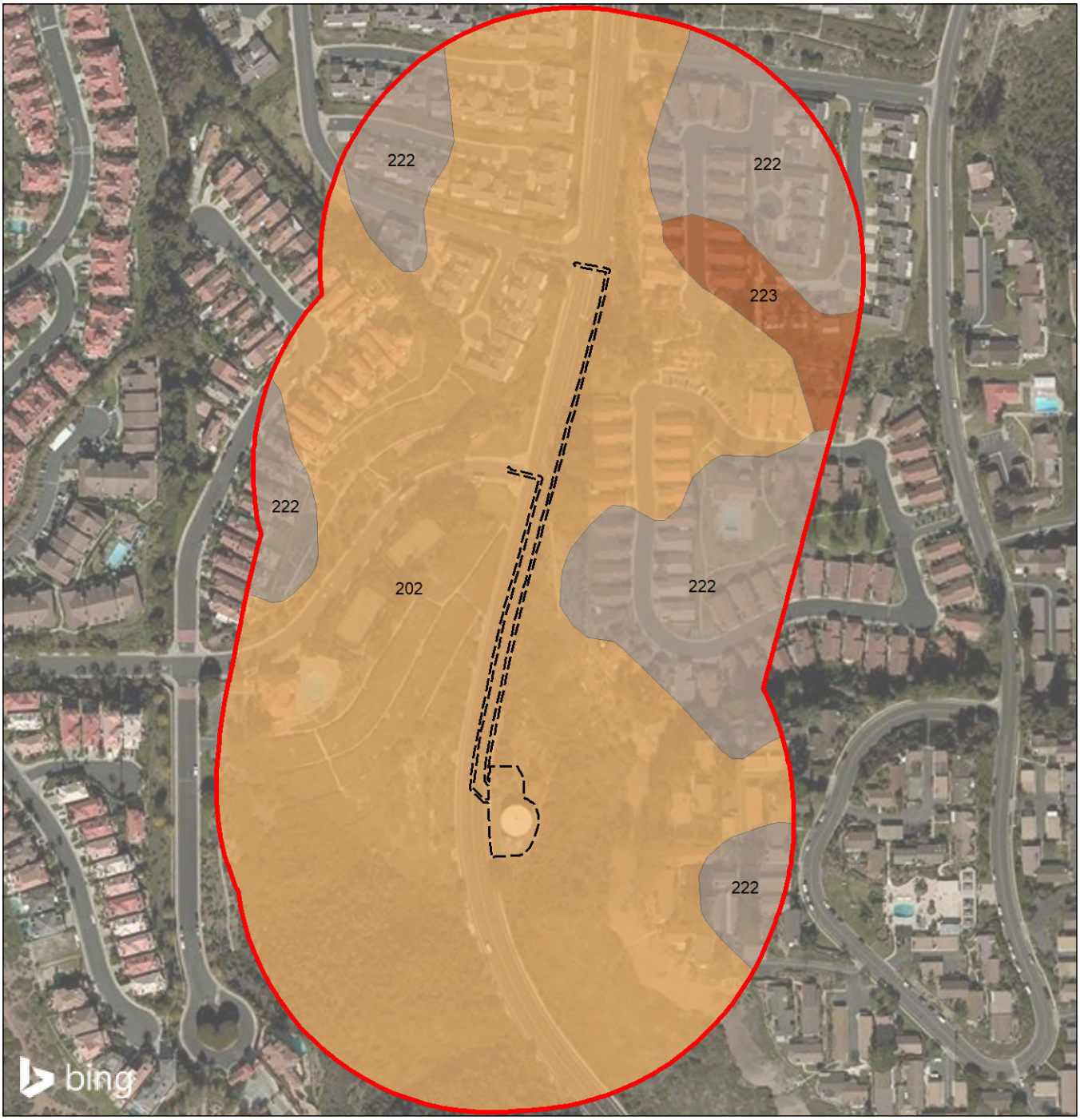

Biological Study Area
Project Location

Soils Map Unit Symbol

202; Soper gravelly loam, 30 to 50 percent slopes, MLRA 20
222; Yorba gravelly sandy loam, 9 to 15 percent slopes
223; Yorba gravelly sandy loam, 15 to 30 percent slopes

0 150 300 Feet
(At original document size of 8.5x11)
1:3,600

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Stantec

Project Location
Orange County, California

Prepared by DL on 2020-08-20
TR by ST on 2020-08-20
IR by JC on 2020-08-20

Client/Project 184031336
Moulton Niguel Water District
1050-Zone Secondary Feed Pump Station
& Transmission Main
Biological Resources Technical Report

Figure No.
3

Title
Historical Soils Map

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020.
3. Background: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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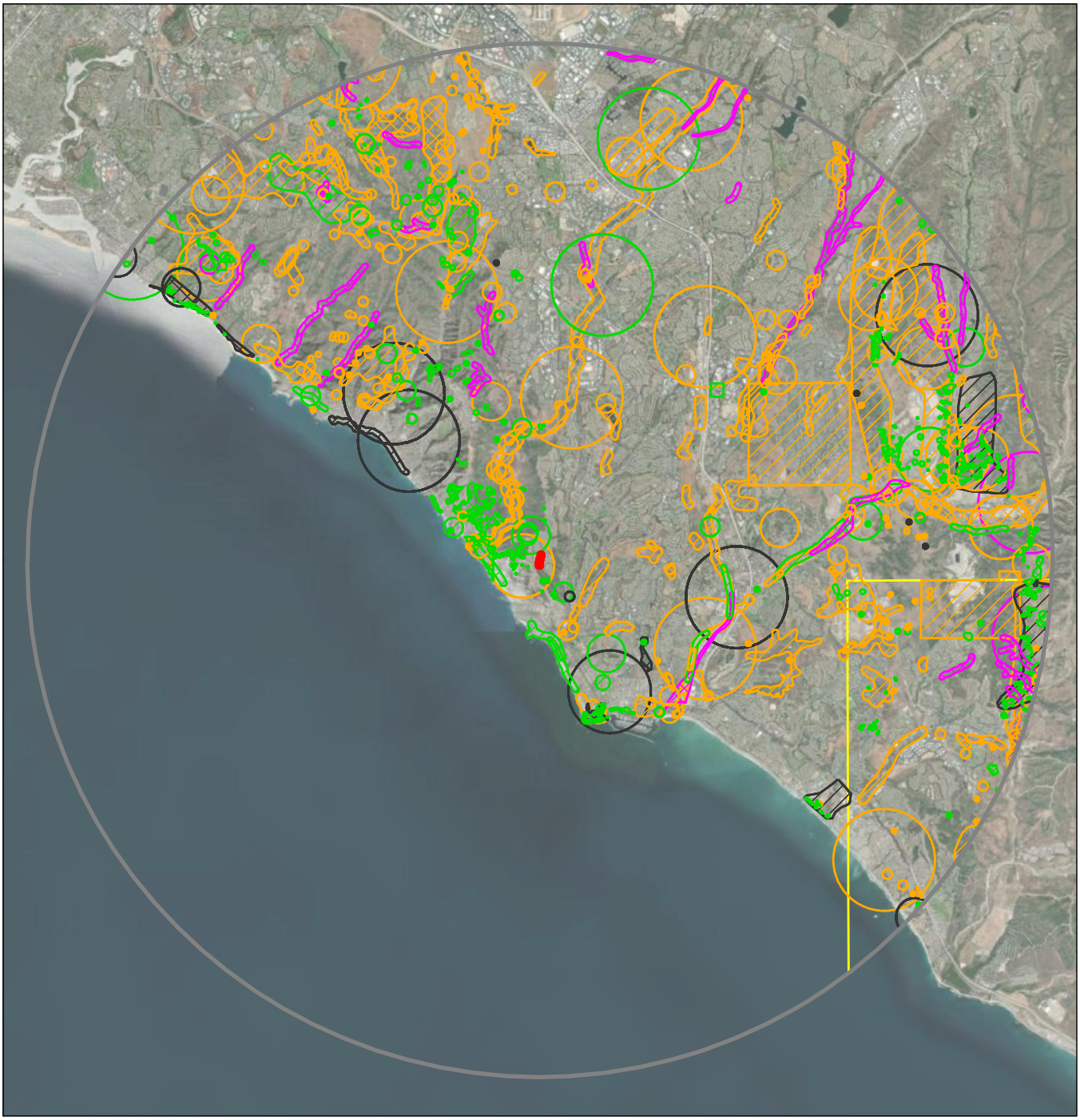

Project Location
10 Mile Search Radius

10 Mile Search Results

Plant (80m)
Plant (specific)
Plant (non-specific)
Plant (circular)
Animal (80m)
Animal (specific)
Animal (non-specific)
Animal (circular)
Terrestrial Comm. (specific)
Terrestrial Comm. (circular)
Multiple (80m)
Multiple (specific)
Multiple (non-specific)
Multiple (circular)
Sensitive EO's (Commercial only)

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Stantec

Project Location
Orange County, California

Prepared by DL on 2020-08-20
TR by ST on 2020-08-20
IR by JC on 2020-08-20

Client/Project
184031336
Moulton Niguel Water District
1050-Zone Secondary Feed Pump Station
& Transmission Main
Biological Resources Technical Report

Figure No.
4a

Title
10 Mile CNDDB Search Results

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020. CNDDB 2020.
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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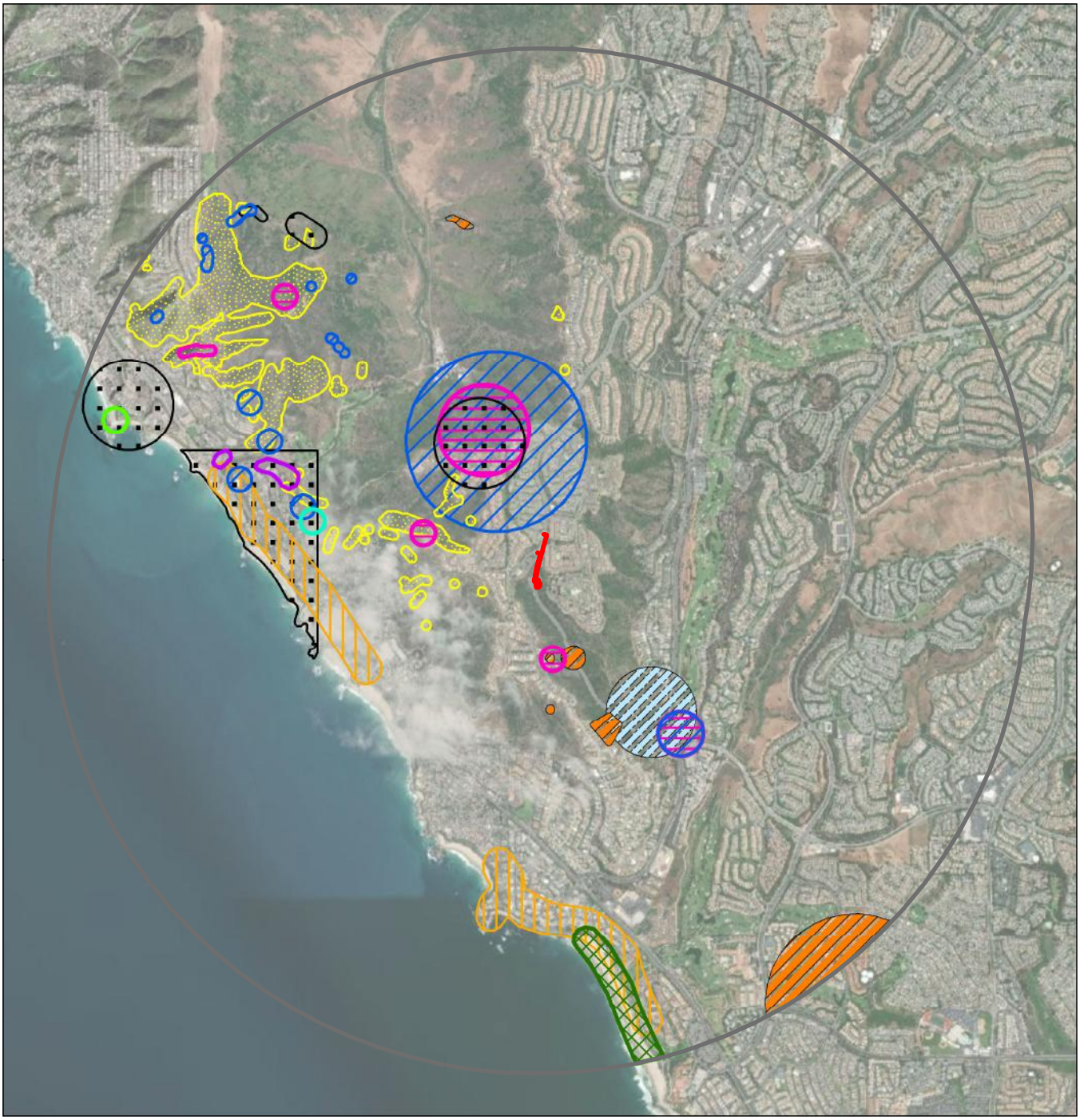

Project Location

2 Mile Search Radius

2 Mile Search Results - Plants

Calochortus weedii var. intermedius

Chaenactis glabriuscula var. orcuttiana

Comarostaphylis diversifolia ssp. diversifolia

Dudleya blochmaniae ssp. blochmaniae

Dudleya multicaulis

Dudleya stolonifera

Euphorbia misera

Isocoma menziesii var. decumbens

Pentachaeta aurea ssp. allenii

Quercus dumosa

Verbesina dissita

0 0.25 0.5 Miles

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Stantec

Project Location

Orange County, California

Prepared by DL on 2020-08-20
TR by ST on 2020-08-20
IR by JC on 2020-08-20

Client/Project

184031336

Moulton Niguel Water District
1050-Zone Secondary Feed Pump Station
& Transmission Main
Biological Resources Technical Report

Figure No.

4b

Title

2 Mile CNDDB Search Results - Plants

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020. CNDDB 2020.
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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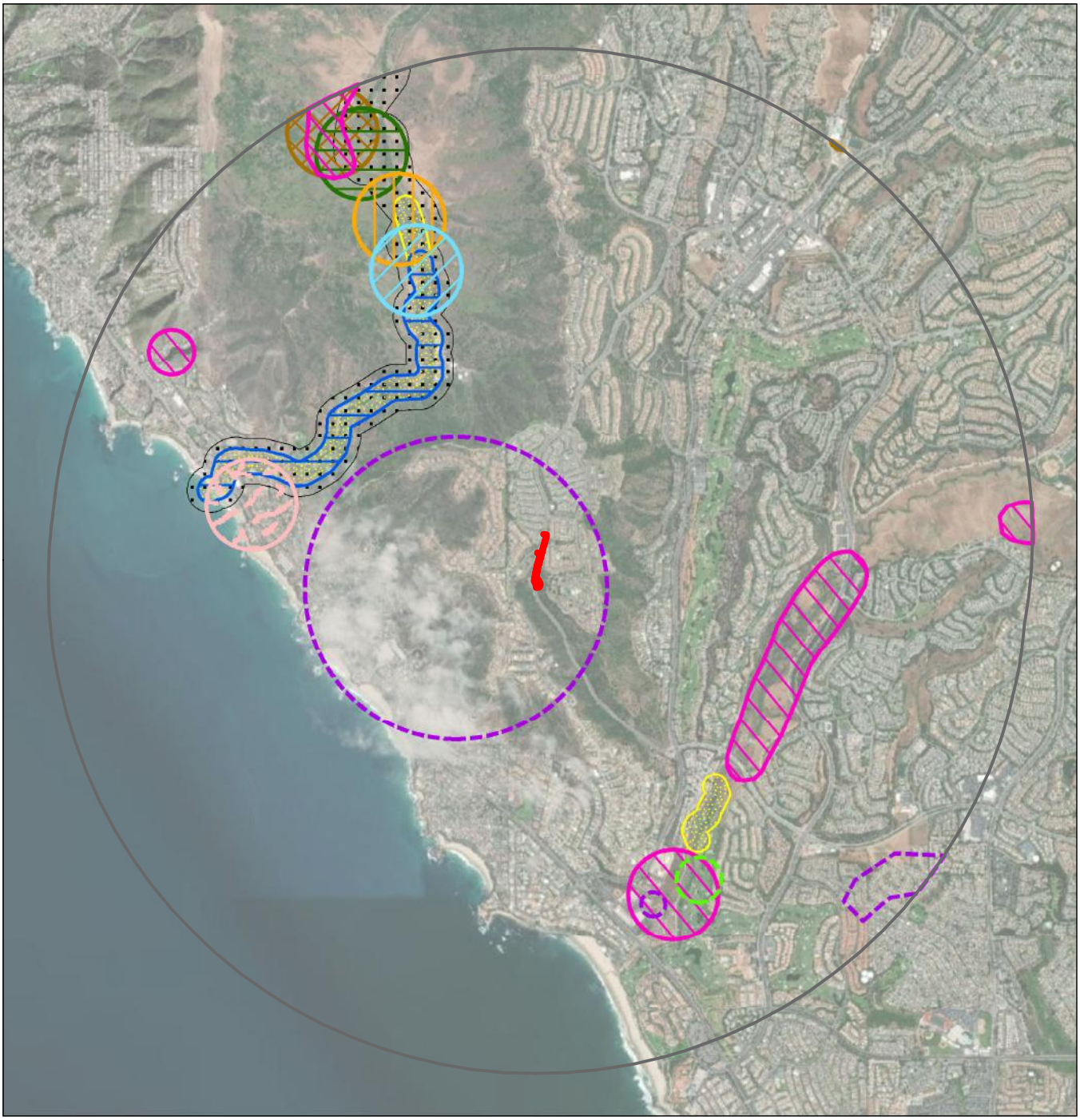

Project Location
2 Mile Search Radius

2 Mile Search Results - Wildlife

Aimophila ruficeps canescens
Aspidoscelis hyperythra
Aspidoscelis tigris stejnegeri
Elanus leucurus
Emys marmorata
Eucyclogobius newberryi
Oncorhynchus mykiss irideus pop. 10
Phrynosoma blainvillii
Polioptila californica californica
Spea hammondii
Vireo bellii pusillus

0 0.25 0.5 Miles
(At original document size of 8.5x11)
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Stantec

Project Location
Orange County, California

Prepared by DL on 2020-08-20
TR by ST on 2020-08-20
IR by JC on 2020-08-20

Client/Project
184031336
Moulton Niguel Water District
1050-Zone Secondary Feed Pump Station
& Transmission Main
Biological Resources Technical Report

Figure No.
4c

Title
2 Mile CNDDB Search Results - Wildlife

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020. CNDDB 2020.
3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Appendix B PHOTOGRAPHIC LOG

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Moulton Niguel Water District	**Job Number:** 184031336
Site Name: District 1050-Zone Secondary Feed Pump Station & Transmission Main	**Photographer:** P. Pratap

Photo 1: September 17, 2020

View from Pacific Island Drive looking at the existing Moulton Niguel Water District Facility and proposed Project site, looking southeast.

Photo 2: September 17, 2020

View from atop hillside west of Pacific Island Drive looking southeast towards the Project site.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Moulton Niguel Water District	**Job Number:** 184031336
Site Name: District 1050-Zone Secondary Feed Pump Station & Transmission Main	**Photographer:** P. Pratap

Photo 3: September 17, 2020

View from atop hillside west of Pacific Island Drive looking south towards the southern boundary of the Project site and BSA displaying Coyote Brush Scrub.

Photo 4: September 17, 2020

View from the middle of the hillside west of Pacific Island Drive looking south.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Moulton Niguel Water District	**Job Number:** 184031336
Site Name: District 1050-Zone Secondary Feed Pump Station & Transmission Main	**Photographer:** P. Pratap

Photo 5: September 17, 2020

View of Pampas Grass Patch north and east of the Project site.

Photo 6: September 17, 2020

View from the hillside east of Pacific Island Drive displaying the hillside drainages, disturbed landscaped areas, and California Sagebrush Scrub.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Moulton Niguel Water District	**Job Number:** 184031336
Site Name: District 1050-Zone Secondary Feed Pump Station & Transmission Main	**Photographer:** P. Pratap

Photo 7: September 17, 2020

View from Pacific Island Drive looking west towards Ocean Way, displaying developed and disturbed landscaped areas within the BSA.

Photo 8: September 17, 2020

View from Casalero Drive looking east towards Pacific Island Drive, displaying developed and disturbed landscaped areas within the BSA.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Moulton Niguel Water District	**Job Number:** 184031336
Site Name: District 1050-Zone Secondary Feed Pump Station & Transmission Main	**Photographer:** P. Pratap

Photo 9: September 17, 2020

View from Pacific Island Drive looking southwest towards Casalero Drive, displaying developed and disturbed landscaped areas within the BSA.

Photo 10: September 17, 2020

View from the northern boundary of the BSA near Starview Lane looking southwest towards Pacific Island Drive, displaying developed and disturbed landscaped areas within the BSA.

RESULTS OF A FOCUSED FIELD SURVEY FOR THE COASTAL CALIFORNIA GNATCATCHER AT PACIFIC ISLAND DRIVE, LAGUNA NIGUEL ORANGE COUNTY, CALIFORNIA

Prepared by:

Pax Environmental, Inc.
530 West Ojai Avenue, Ste. 202 & 207
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Prepared for:

Stantec
9665 Granite Ridge Drive, Ste. 220
San Diego, CA 92123-2636

16 February 2021

Certification Statement

I certify that the information in this survey report, and attached exhibits, fully and accurately represent my work. The results of focused surveys for listed species are typically considered valid for one year by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. If you have any questions or require additional information, please call me at (949) 923-8224.

Sincerely,

Thomas Ryan
Biologist TE-097516-8

EXECUTIVE SUMMARY

This report presents results of habitat evaluation for the Coastal California Gnatcatcher (*Polioptila californica californica*) (CAGN); and protocol presence/absence surveys for CAGN at a 29.7 acres area within 500 feet of the pipeline from 31540 Pacific Island Drive to Casalero Drive, Laguna Niguel, Orange County, California (Figure 1). The site is within the San Juan Capistrano USGS Quadrangle (33.504780° N, -117.730196° W) (USGS 2018). (study area) (Figures 1 and 2). The habitat evaluation found that there was suitable habitat for CAGN on site. There is approximately 1.9 acres of coastal sage scrub and 15 acres of mixed Chaparral-Coastal Sage Scrub at the site. The remaining acreage is not suitable and are a mixture of developed area, cleared fire buffer, and landscaping with non-native drought tolerant plants. Portions of the site south of Ocean Way are within Unit 6 final designated Critical Habitat of the Coastal California Gnatcatcher (USFWS 2007) (Figure 3). There are known, extant populations of CAGN nearby at the Salt Corridor Regional Park/Salt Creek Trail (0.9 mile east), Aliso Woods (1 mile north), Aliso Summit Trail (1.7 miles north), Wood Canyon (1.6 miles northwest), and Moulton Meadows Park (1.7 miles northwest) (CDFW 2020 and eBird 2021). However, no CAGN were detected during the surveys.

1. INTRODUCTION

1.1 PURPOSE

This report presents results of habitat evaluation and protocol presence/absence surveys for CAGN within 29.7 acres area within 500 feet of the Pipeline from 31540 Pacific Island Drive to Casalero Drive, Laguna Niguel, Orange County, California (Figure 1). The site is within the San Juan Capistrano USGS Quadrangle (33.504780° N, -117.730196° W) (USGS 2018) (study area) (Figures 1-3).

1.2 DESCRIPTION OF THE STUDY AREA

The study area is located within the San Joaquin Hills in a drainage of Niguel Hill. This drainage drains to the Arroyo Salada and Salt Creek and is approximately 0.8 mile from the Pacific Ocean (Figures 1-3). The study area consists of east and west facing slopes of a drainage (Figures 1-3). The slopes are dominated by mixed Chaparral-Coastal Sage Scrub. Coastal Sage Scrub is found in two patches on slopes with greater south-facing sun exposure (Figure 3). The site is surrounded by residential housing that runs along the hilltops above the canyon (Figures 1 and 3). Landscaped vegetation and unvegetated fire breaks are maintained adjacent to the residential housing (Figures 1 and 3). Two water tanks and associated outbuildings are found at either end of the study area (Figures 1 and 3). Common plant species within the Coastal Sage Scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), and blue elderberry (*Sambucus cerulea*). Areas of mixed Chaparral-Coastal Sage Scrub included these species as well as Lemonade Berry (*Rhus integrifolia*), Sugarbush (*Rhus ovata*), Laurel Sumac (*Malosma laurina*), Ceanothus (*Ceanothus* sp.), Coyote bush (*Baccharis pilularis*), and scrub oak (*Quercus berberidifolia*). There is a small basin adjacent to the southern water tank with some riparian-associated species including willow (*Salix* sp.) and mulefat (*Baccharis salicifolia*).

Portions of the site south of Ocean Way are within designated Critical Habitat Areas of the *Coastal California Gnatcatcher (Figure 4) (USFWS 2007).*

1.3 COASTAL CALIFORNIA GNATCATCHER

The CAGN is listed as a threatened species by the U.S. Fish and Wildlife Service (USFWS), species of special concern by the California Department of Fish and Wildlife (CDFW 2020b) and is protected under the Migratory Bird Treaty Act (USFWS 1993, CDFW 2020b). They are small birds (4.5 inches long), darkish blue gray above, and dark gray-white below. Males exhibit a dark black cap in breeding plumage. They inhabit dry coastal slopes, washes, and mesas, are restricted to areas of coastal sage scrub below 2,000 feet in elevation and are less abundant in coastal scrub-chaparral transition areas and areas dominated by black sage (*Salvia mellifera*), white sage (*Salvia apiana*), or lemonade berry (*Rhus integrifolia*) (Atwood and Bontrager 2001). They nest in shrubs within coastal sage scrub from mid-February to August and remain on their breeding territories throughout the year. They exist in small, local populations in coastal southern California that extend north to Ventura County and south into Baja California Sur. Locally, there are recent records from Salt Corridor Regional Park/Salt Creek Trail (0.9 mile east), Aliso Woods (1 mile north), Aliso Summit Trail (1.7 miles north), Wood Canyon (1.6 miles northwest), and Moulton Meadows Park (1.7 miles northwest) (CDFW 2020a and eBird 2021).

2. METHODS

Surveys were conducted by permitted CAGN biologist Thomas Ryan, who holds Recovery Permit TE-097516-8 issued under Section 10(a)(1)(A) of the Endangered Species Act and a State Scientific Collecting Permit SC-003409, and California Department of Fish and Wildlife (CDFW) Memorandum of Understanding (MOU) for CAGN. Notification of the intent to survey for CAGN was sent on August 30, 2020 and acknowledged by the Service on August 31, 2020. Surveys were conducted between September 11, 2020 and January 16, 2021.

Surveys followed current U. S. Fish and Wildlife Service (USFWS) protocol described in Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines February 28, 1997 (USFWS 1997). Surveys were conducted between September 11, 2020 and January 16, 2021 (Table 1). The entire study area was covered nine times at least two weeks apart as per the protocol (USFWS 1997). The biologist walked the study area and searched it using 10x binoculars. Call playback was used to illicit calls from the CAGN, calls were not used after the first detection or if a predator was present.

Surveys were conducted under clear to overcast/cloudy conditions, with temperatures ranging from 47-72 degrees Fahrenheit, and winds ranging 0-8 miles per hour (mph). Surveys were conducted in the non-breeding season, using the approved protocol (USFWS 1997).

Table 1: Summary of Survey Conditions for CAGN

Survey	Date	Biologist	Time (PST)	Temp (°F)	Wind (mph)	Conditions
CAGN 1	9/11/20	Thomas Ryan	06:49-08:45	61-65	0-2	Overcast
CAGN 2	9/25/20	Thomas Ryan	07:05-08:50	64-65	2-4	Overcast
CAGN 3	10/9/20	Thomas Ryan	07:09-08:55	62-63	1-3	Partly Cloudy
CAGN 4	10/29/20	Thomas Ryan	07:05-09:00	54-59	2-4	Clear
CAGN 5	11/17/20	Thomas Ryan	07:00- 09:00	58-62	2-3	Clear
CAGN 6	12/3/20	Thomas Ryan	07:10-09:00	59-65	5-8	Clear
CAGN 7	12/18/20	Thomas Ryan	07:11-08:50	48-54	1-2	Clear
CAGN 8	1/2/20	Thomas Ryan	07:02-09:08	47-56	2-5	Partly Cloudy
CAGN 9	1/16/20	Thomas Ryan	07:15-09:00	58-72	3-5	Clear

3. RESULTS & DISCUSSION

Table 2: Summary of Observations of California Gnatcatchers.

Survey	Date	Observation
CAGN 1	9/11/20	None Detected
CAGN 2	9/25/20	None Detected
CAGN 3	10/9/20	None Detected
CAGN 4	10/29/20	None Detected
CAGN 5	11/17/20	None Detected
CAGN 6	12/3/20	None Detected
CAGN 7	12/18/20	None Detected
CAGN 8	1/2/21	None Detected
CAGN 9	1/16/21	None Detected

The biologist did not detect CAGN during these surveys. No special-status bird species were detected (Appendix B). There are two patches of coastal sage scrub where CAGN could potentially occur (Figure 3). Adjacent to the larger patch is less suitable, but potential habitat, mixed coastal sage scrub-chaparral. On north-facing slopes it tends more towards chaparral, these native habitats abut a landscaped fire buffer and suburban development which is not suitable. A major road bisects the two coastal sage scrub patches.

In conclusion, the study area did not support CAGN during the period of the surveys in 2020-21. The results of focused surveys for listed species are typically considered valid for one year (January 16, 2022) by the USFWS and CDFW.

4. REFERENCES

Atwood, J. L., and D. R. Bontrager, 2001. California Gnatcatcher (*Polioptila californica*). The Birds of North America, No. 574 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.
California Department of Fish and Wildlife. 2020a. Natural Diversity Database. Accessed: October 2020.
California Department of Fish and Wildlife, Natural Diversity Database (CDFW). 2020b. Special Animals List. Periodic publication. November 2020.
eBird. 2021. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: http://www.ebird.org. Accessed: January 14, 2021.
Sawyer, J. O., and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society. Sacramento, California.
USGS. 2018. San Juan Capistrano. Reston, Va: U.S. Department of the Interior.
USFWS. 1993. Determination of Threatened Status for the Coastal California Gnatcatcher. Department of the Interior, U.S. Fish and Wildlife Service. Federal Register. Vol. 58, No. 59: 16742-16757. March 19, 1993.
USFWS, 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Protocol Survey Guidelines. Unpublished report. USFWS Field Office, Carlsbad, CA.
USFWS 2007. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Coastal California Gnatcatcher (*Polioptila californica californica*). Department of the Interior, U.S. Fish and Wildlife Service. Federal Register. Vol. 72, No 243: 72010 – 72213. December 19, 2007.

Figure 1: Project Vicinity Aerial Imagery Map

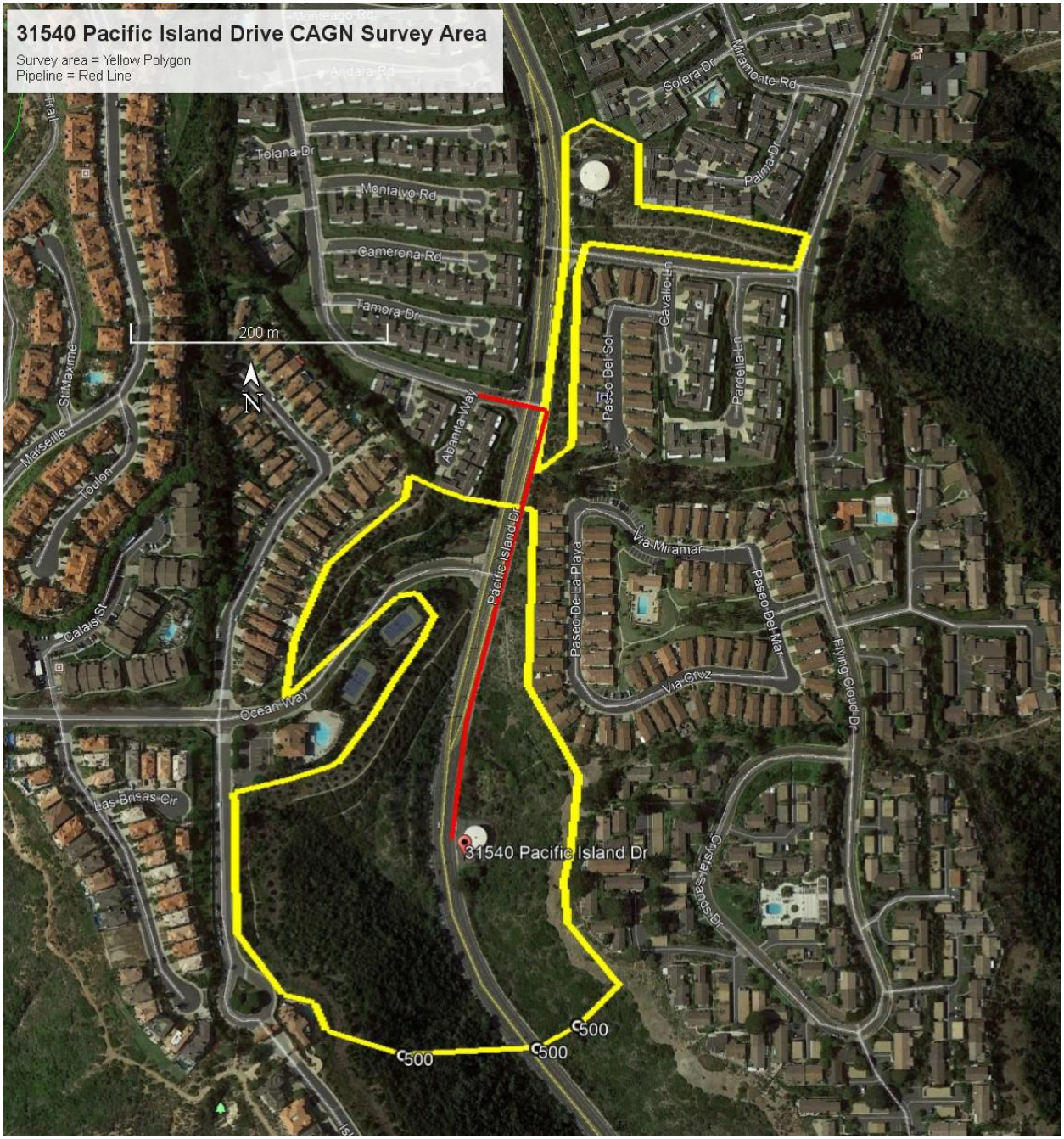


Figure 2: Project Vicinity USGS Topo Map

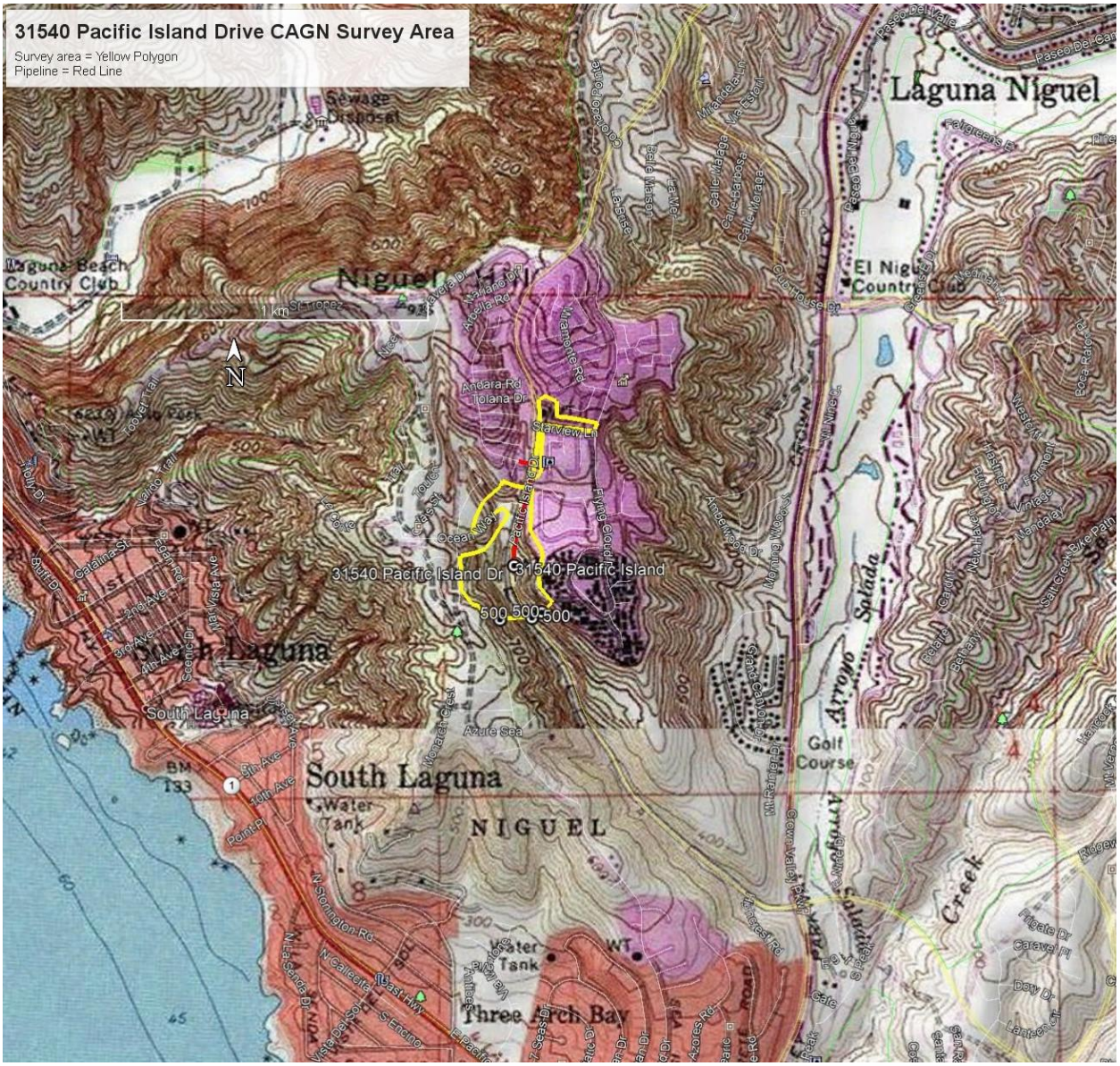


Figure 3: Vegetation Map

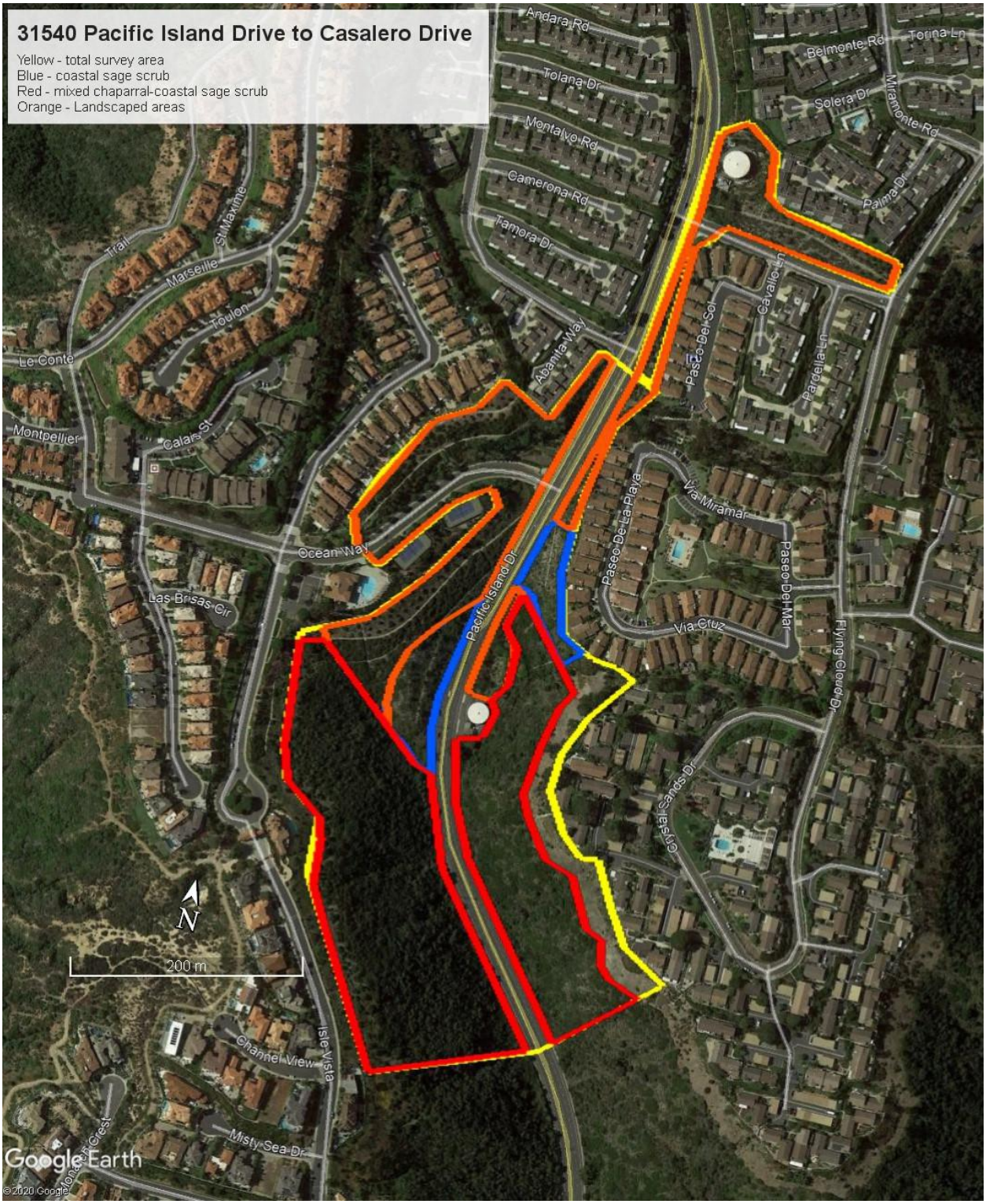
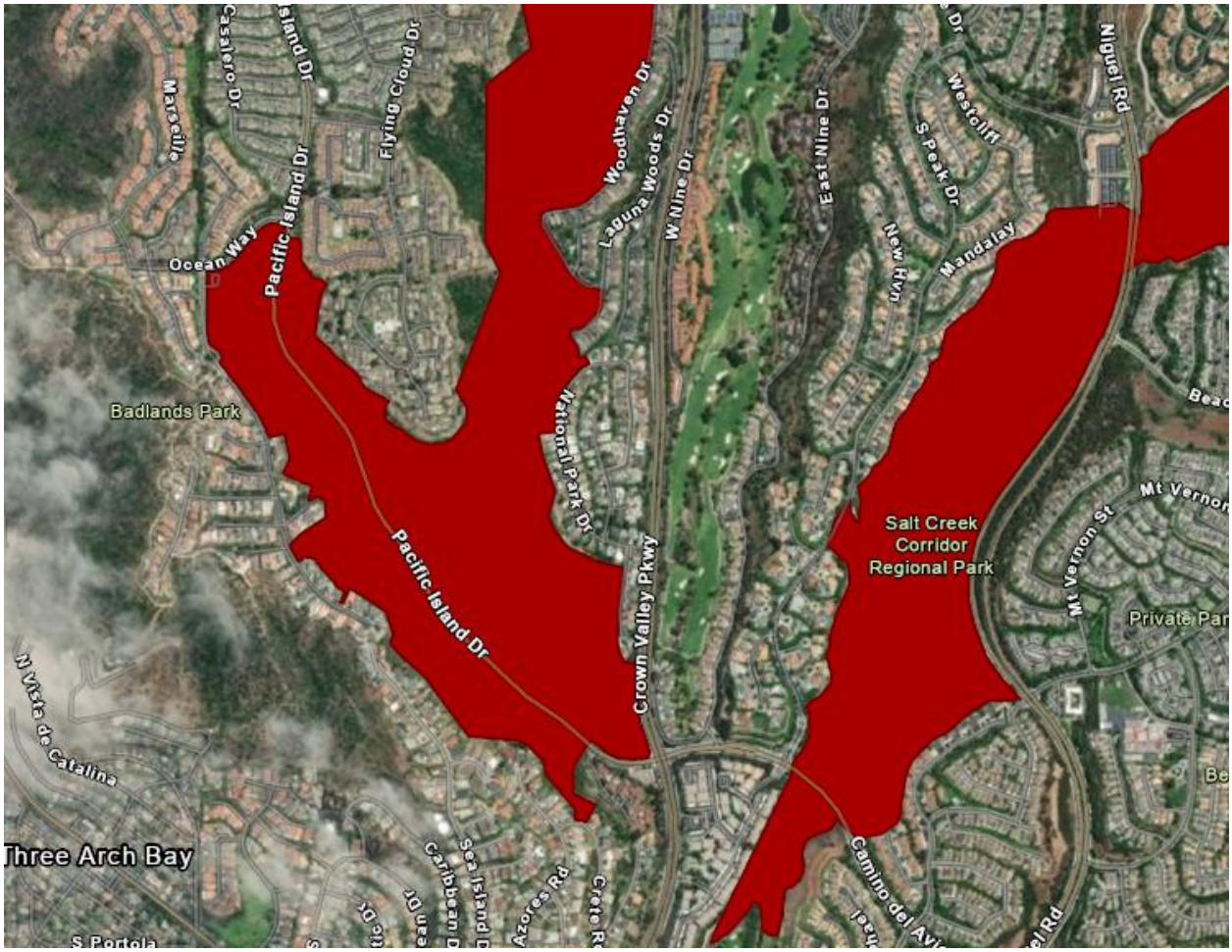


Figure 4: Coastal California Gnatcatcher Critical Habitat Map



APPENDIX A: PHOTOGRAPHS

Photograph 1. View from the east side looking south toward the southern water tower, the coastal sage scrub and mixed chaparral-coastal sage scrub.

Photograph 2. Coastal Sage Scrub on the east side of Pacific Island Drive.

Photograph 3. Landscaped habitat on the north end of the study area.

APPENDIX B: WILDLIFE DETECTED DURING SURVEYS

Common Name	Scientific Name
REPTILES	
Western Fence Lizard	*Sceleporous occidentalis occidentalis*
BIRDS	
California Quail	*Callipepla californica*
Turkey Vulture	*Cathartes aura*
Cooper's Hawk	*Accipiter cooperii*
Red-tailed Hawk	*Buteo jamaicensis*
Mourning Dove	*Zenaida macroura*
Anna's Hummingbird	*Calypte anna*
Allen's Hummingbird	*Selasphorus sasin*
Nuttall's Woodpecker	*Picoides nuttallii*
Pacific-slope Flycatcher	*Empidonax difficilis*
Western Wood Pewee	*Contopus sordidulus*
Black Phoebe	*Sayornis nigricans*
Say's Phoebe	*Sayornis saya*
Ash-throated Flycatcher	*Myiarchus cinerascens*
Cassin's Kingbird	*Tyrannus vociferans*
California Scrub-Jay	*Aphelocoma californica*
American Crow	*Corvus brachyrhynchos*
Common Raven	*Corvus corax*
Bushtit	*Psaltriparus minimus*
House Wren	*Troglodytes aedon*
Bewick's Wren	*Thryomanes bewickii*
Ruby-crowned Kinglet	*Regulus calendula*
Hutton’s Vireo	*Vireo huttoni*
Wrentit	*Chamaea fasciata*
Western Bluebird	*Sialia mexicana*
Hermit Thrush	*Catharus guttatus*
California Thrasher	*Toxostoma redivivum*
Northern Mockingbird	*Mimus polyglottos*
European Starling	*Sturnus vulgaris*
Cedar Waxwing	*Bombycilla cedrorum*
Orange-crowned Warbler	*Oreothlypis celata*
Common Yellowthroat	*Geothlypis trichas*
Yellow-rumped Warbler	*Setophaga coronata*
White-crowned Sparrow	*Zonotrichia leucophrys*
Fox Sparrow	*Passerella iliaca*

Song Sparrow	*Melospiza melodia*
California Towhee	*Melozone crissalis*
Spotted Towhee	*Pipilo maculatus*
Bullock's Oriole	*Icterus bullockii*
House Finch	*Haemorhous mexicanus*
Lesser Goldfinch	*Spinus psaltria*
American Goldfinch	*Spinus tristis*
House Sparrow	*Passer domesticus*
Scaly-breasted Munia	*Lonchura punctulata*
MAMMALS	
Domestic Dog	*Canis familiaris*
House Cat	*Felis domesticus*
California Ground Squirrel	*Spermophilus beecheyi*
Desert Cottontail	*Sylvilagus audubonii*

February 2022

Appendix B CULTURAL REPORT

CULTURAL RESOURCES SURVEY REPORT ON BEHALF OF MOULTON NIGUEL WATER DISTRICT FOR THE INSTALLATION OF A NEW PUMP STATION AND APPROXIMATELY 2,000 FEET OF WATER MAIN ALONG PACIFIC ISLAND DRIVE, LAGUNA NIGUEL, ORANGE COUNTY, CALIFORNIA

Submitted to:
Moulton Niguel Water District
Street
Address

Stantec

Submitted by:
Hubert Switalski and Mitch Marken
Stantec Consulting Services Inc.
5500 Ming Avenue, Suite 300
Bakersfield, CA 93309-4627

March 2021

This document may contain sensitive archaeological information. Not for public distribution.

This document entitled *CULTURAL RESOURCES SURVEY REPORT ON BEHALF OF MOULTON NIGUEL WATER DISTRICT FOR THE INSTALLATION OF A NEW PUMP STATION AND APPROXIMATELY 2,000 FEET OF WATER MAIN ALONG PACIFIC ISLAND DRIVE, LAGUNA NIGUEL, ORANGE COUNTY, CALIFORNIA,* was prepared by Stantec Consulting Services Inc. for the account of *Orange County Parks*. The material in it reflects Stantec Consulting Services Inc. best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec Consulting Services Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Prepared by 
(signature)

Hubert Switalski, Senior Archaeologist

Prepared by 
(signature)

Mitch Marken, RPA Principal Investigator

Cover page: Overview of the Project Area , view southeast.

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1.0 MANAGEMENT SUMMARY

On November 6, 2020, Stantec Consulting Services Inc. (Stantec) conducted an archaeological study on behalf of the Moulton Niguel Water District (District) for the proposed installation of a new pump station and approximately 2,000 feet of new water line in the City of Laguna Niguel, Orange County, California. The District is in the process of adding a secondary source for the 1050 zone to allow for redundancy and continued service during Pacific Island Drive Pump Station No. 3 routine maintenance and/or repairs.

As the proposed project may require grading and/or construction permits from the County of Orange, the proposed project is subject to compliance with the California Environmental Quality Act (CEQA) requirements regarding the project's impacts on cultural resources. CEQA (Public Resources Code Sections 21000 etc.) requires that, before approving most discretionary projects, the Lead Agency must identify and examine any significant adverse environmental effects that may result from activities associated with such projects (Public Resources Code Sections 21083.2 and 21084.1). CEQA explicitly requires that the initial study examine whether the project may result in a significant adverse change to "historical resources" and "unique archaeological resources." Under these requirements, a cultural resources inventory was conducted to determine impacts of the proposed project on any cultural resources potentially eligible for nomination to California Register of Historical Resources (CRHR) and/or the National Register of Historic Places (NRHP).

The archaeological study consisted of an archival records search of the Project Area and the surrounding Study Area conducted at the South Central Coastal Information Center (SCCIC) of the California Historic Resources Information System (CHRIS), located at California State University, Fullerton. A Sacred Lands File search was requested by the Moulton Niguel Water District with the Native American Heritage Commission (NAHC) in Sacramento and identified tribes were notified by the District. An archaeological survey of the entire 3.5-acre Project Area was conducted by a qualified archaeologist on November 6, 2020. No cultural resources were encountered during the study and no further archaeological studies are recommended at this time. Therefore, based on the results of this study, no significant and/or archaeological resources were identified within the Project Area, and no substantial adverse impacts to such resources as defined in Section 15064.5 are expected.

2.0 REGULATORY FRAMEWORK

This archaeological study was conducted to meet the CEQA requirements regarding cultural resources on lands proposed for potential future development. CEQA (Public Resources Code Sections 21000 etc.) requires that before approving most discretionary projects, the Lead Agency must identify and examine any significant adverse environmental effects that may result from activities associated with such projects (Public Resources Code Sections 21083.2 and 21084.1). CEQA explicitly requires that the initial study examine whether the project may have a significant effect on "historical resources" and "unique archaeological resources." Under these requirements, a cultural resources inventory was conducted in order to determine impacts of the proposed project on cultural resources potentially eligible for nomination to the CRHR.

CEQA (California Public Resources Code Section 21000 et seq.) (1970) established that historical and archaeological resources are afforded consideration and protection by the California Environmental Quality Act (CEQA) (14 CCR Section 21083.2, 14 CCR Section 15064). CEQA Guidelines define significant cultural resources under three regulatory designations: historical resources, tribal cultural resources, and unique archaeological resources. These designations permit for a fair amount of overlap.

A historical resource is a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR"; or "a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code"; or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record" (14 CCR Section 15064.5[a][3]). Historical resources automatically listed in the CRHR include California cultural resources listed in or formally determined eligible for the NRHP and California Registered Historical Landmarks from No. 770 onward (PRC 5024.1[d]). Locally listed resources are entitled to a presumption of significance unless a preponderance of evidence in the record indicates otherwise.

Tribal cultural resources (TCRs) are similar to the traditional cultural property designation within the National Historic Preservation Act (NHPA) guidance. These can be sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a Tribe. To qualify as a TCR, it must either be 1) listed on or eligible for listing on the California Register or a local historic register or, 2) or is a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR (PRC Section 21074). TCRs can include "non-unique archaeological resources" (see "unique archaeological resource" below) that, rather than being important for "scientific" value as a resource, can also be significant because of the sacred and/or cultural tribal value of the resource. Tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of tribal cultural resources within their traditionally and cultural affiliated geographic area (PRC Section 21080.3.1(a)).

Under CEQA, a resource is generally considered historically significant if it meets the criteria for listing in the CRHR. A resource must meet at least one of the following criteria (PRC 5024.1; 14 CCR Section 15064.5[a][3]):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. Title 14, CCR Section 4852(b)(1) adds, "is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States."

2. Is associated with the lives of persons important in our past. Title 14, CCR Section 4852(b)(2) adds, "is associated with the lives of persons important to local, California, or national history."
3. Embodies the distinctive characteristics of a type, period, region, or method of construction; or represents the work of an important creative individual; or possesses high artistic values. Title 14, CCR 4852(b)(3) allows a resource to be CRHR eligible if it represents the work of a master.
4. Has yielded, or may be likely to yield, information important in prehistory or history. Title 14, CCR 4852(b)(4) specifies that importance in prehistory or history can be defined at the scale of "the local area, California, or the nation."

Historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852[c]).

An archaeological artifact, object, or site can meet CEQA's definition of a unique archaeological resource even if it does not qualify as a historical resource (PRC 21083.2[g]; 14 CCR 15064.5[c][3]). An archaeological artifact, object, or site is considered a unique archaeological resource if "it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC 21083.2[g]):

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

Public Resources Code 5097.98. This section discusses the procedures that need to be followed upon the discovery of Native American human remains. The NAHC, upon notification of the discovery of human remains is required to contact the County Coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code and shall immediately notify those persons it believes to be most likely descended from the deceased Native American.

Health and Safety Code 7050.5. This code establishes that any person, who knowingly mutilates, disinters, wantonly disturbs, or willfully removes any human remains in or from any location without authority of law is guilty of a misdemeanor. It further defines procedures for the discovery and treatment of Native American human remains.

The *Project Area* is confined to the 363.5-acre portion of land within the East Orange I conservation easement and a 30-meter (100 feet) wide buffer along an existing road (approximately 92.3 acres) proposed for maintenance/improvement within East Orange II conservation easement, for a total of 455.8 acres. It is expected that any potential adverse impacts, including ground disturbance, arising from any future maintenance and improvement projects will be contained within the acreage. The *Study Area* for this project consists of the Project Area and a ½-mile radius surrounding the Project Area.

The Project Area includes the footprint of the new pump station, the 2,000-foot-long alignment of the proposed water line, including a 100-foot-wide buffer, for a total of approximately 3.5 acres. It is expected that any potential adverse impacts, including ground disturbance, arising from any future maintenance and improvement projects will be contained within the acreage. The *Study Area* for this project consists of the Project Area and a ½-mile radius surrounding the Project Area.

3.0 PROJECT DESCRIPTION

The 1050 zone is the District's highest potable water zone in elevation serving about 708 residences within the City of Laguna Niguel. Currently, the 1050 zone's only source of water is via a single

pump station (i.e. Pacific Island Drive Pump Station No. 3). The District is seeking to add a secondary source for the 1050 zone to allow for redundancy and continued service during Pacific Island Drive Pump Station No. 3 maintenance or repair. As such, the proposed project would include the installation and operation of a new pump station and approximately 2,000 linear feet of new 12-inch diameter suction and discharge piping. The new pump station would serve as back up to the existing Pacific Island Drive Pump Station No. 3 and would require expansion to the existing Pacific Island Drive Pump Station No. 2 site to accommodate the proposed secondary feed pump station and associated appurtenances. The expanded pump station site footprint would include: a secondary feed pump station, new transformer, new generator, and space accommodations for a future approximately 15 foot by 25-foot Reservoir Management System (RMS) building (however, installation of this new structure is not included in this project). Grading, vegetation clearing and grubbing, fence and gate modifications, and a retaining wall would be required for the pump station site expansion

4.0 PROJECT LOCATION

The Project Area is located within the City of Laguna Niguel, in the southwestern portion of Orange County (Figure 1). The Project Area is located along Pacific Island Drive, and south of Casalero Drive, and north of an existing pump station (Pacific Island Drive No. 3). Specifically, the Project Area is located within an unsectioned portion of Rancho Laguna, a Mexican Land Grant, as depicted on the San Juan Capistrano, CA (1981) USGS 7.5-minute series topographic quadrangle (Figure 2).

5.0 ENVIRONMENTAL BACKGROUND

The Project Area is located within the San Joaquin Hills and it is bound by Arroyo Salada to the east and south, Aliso Canyon to the north, and the Pacific Ocean to the west. This part of Orange County is part of the Peninsular Range Natural Province of southern California, a system of northwesterly trending ridges that extend from the Transverse Ranges south into Baja California. The topography of this province is characterized by irregular coastal plain in the west, as well as prominent ridges, peaks, valleys and subdued upland areas as one moves south and east (Jahns 1954:29). The general topography within the Study Area is comprised of rolling foothills intersected by ephemeral and perennial drainages, and relatively steep slopes. The elevation of the Project Area is 700 feet.

The climate of the Study Area is classified as Mediterranean and characterized by long, dry summer, and wet, relatively short winters. The vegetation within the Study Area and immediate surroundings is classified as Coastal Sage Scrub and Valley Grassland plant community, which is generally dominated by a lush growth of California buckwheat (Munz 1974).

Prior to development first as an agricultural community and now as suburban this area had flora of chaparral and southern oak woodland, characterized by grassland with shrubs and oak stands in the foothills (Rundel and Gustafson 2005). Common plants within these biotic communities would have included chamise (*Adenostoma fasciculatum*), scrub oak (*Quercus dumosa*), coast live oak (*Quercus agrifolia*), manzanita (*Arctostaphylos* sp.), toyon (*Hetermoles arbutifolia*), sugarbush (*Rhus ovata*), and lemonade-berry (*Rhus integrifolia*)(Rundel and Gustafson 2005).

6.0 CULTURAL BACKGROUND

Regional human occupation chronologies for parts of southern California and the Southwest have been employed for this locality (Elsasser 1978; Warren and Crabtree 1986). Such sequences are generally based on the presence of temporally diagnostic artifacts, such as projectile points, pottery, or beads. The most recent chronological clarification of the prehistory of the southern

California area has been presented by Sutton (2010) and Sutton and Gardner (2010). The more recent chronology is presented below.

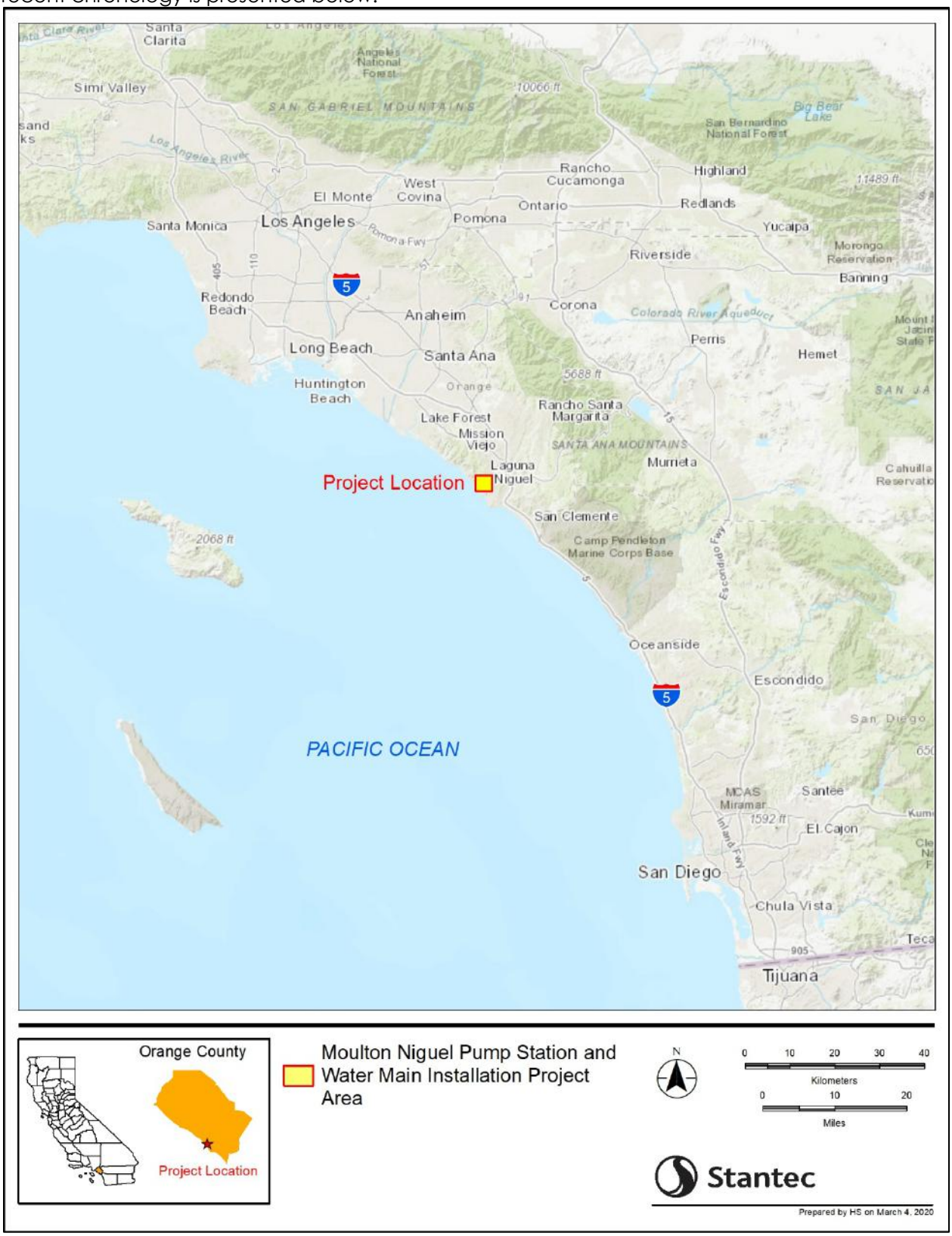

Figure 1. Project location and vicinity map.

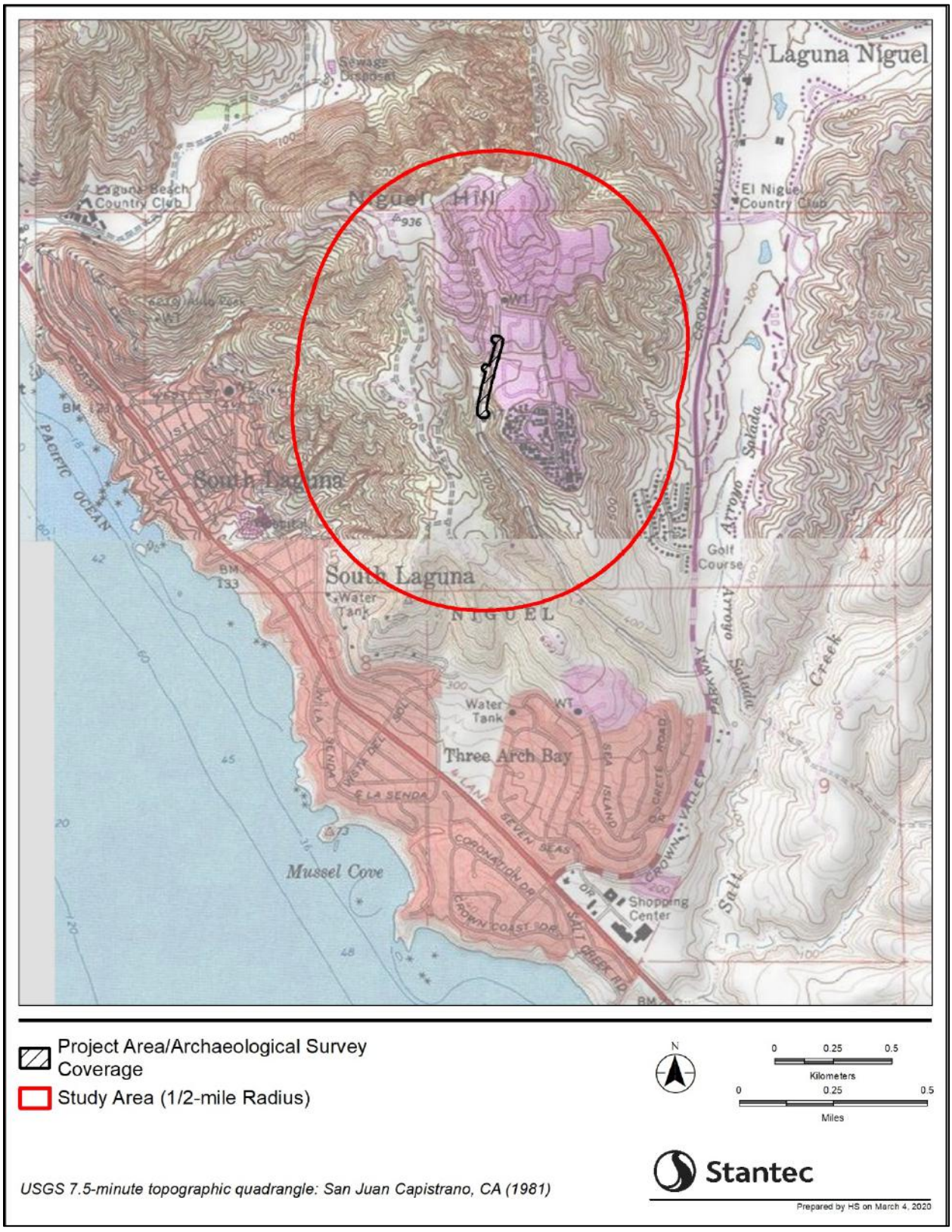

Figure 2. Archaeological survey coverage with the Study Area depicted on the San Juan Capistrano, CA (1981), USGS 7.5-minute series topographic quadrangle.

6.1 Archaeological Background

The earliest period of human occupation in southern California is referred to by various terms, including Clovis, Paleoindian, and Early Systems Period. This is a time believed to have commenced about 12,000 years ago Before Present (BP), lasting until about 10,000 years BP. While some scholars have championed the idea of a Pre-Projectile Point Tradition predating this time, it is not considered here, as there are no documented sites of this age near the current Study Area. The following cultural periods reflect human adaptations that occurred among prehistoric societies in inland California. While these are broad generalizations, there appear to be similarities among various populations in southern California, particularly in the inland areas.

Prehistoric chronological sequences for the area can be represented by the Encinitas Tradition and the Del Rey Tradition. The Encinitas Tradition is characterized by an abundance of grinding implements (manos and metates), rough core and flaked stone and bone tools, and shell ornaments but few projectile points and hunting implements (Sutton and Gardner 2010). Subsistence focused on collecting rather than hunting with faunal remains, varying by site, including marine mammals, fish, shell fish, and land animals (Sutton and Gardner 2010:7). The Encinitas Tradition has four regional expressions: The Topanga in coastal Los Angeles and Orange county areas, the La Jolla in the coastal San Diego area, Pauma in inland San Diego areas, and the Greven Knoll in inland Los Angeles, Orange, San Bernardino, and Riverside County areas (Sutton and Gardner 2010:8-25).

6.1.1 Greven Knoll Phases

Greven Knoll Phase I (9,400 to 4,000 BP) is characterized by manos and metates (though no mortars and pestles), large projectile points, hammerstones, flexed inhumations and few cremations (Sutton and Gardner 2010:25). Greven Knoll I groups seem to have been influenced by Mojave Desert groups based on similarities in material culture (Sutton and Gardner 2010). The "Cogstone Point" Site, located in the Prado Basin near the Study Area, contained manos, metates, discoidals, cogstones, Pinto-style points but no scrapers, as is common in Greven Knoll I sites. Shell artifacts are also rare at sites dating to this phase of Greven Knoll.

Greven Knoll Phase II (4,000 to 3,000 BP) shared many similarities with Greven Knoll I but is differentiated by an increase in percentages of manos and a decrease in percentages of flaked stone points and bone tools (Sutton and Gardner 2010:8). Pinto-style points are still found but Elko-style points become more common. Many Greven Knoll II sites also contain Greven Knoll I components, indicating little change in settlement patterns (Sutton and Gardner 2010:30). There are at least seven Greven Knoll II sites located in the Prado Basin (Sutton and Gardner 2010:30).

Greven Knoll III (3,000 to 1,000 BP), formerly known as Sayles Complex, is characterized by abundant manos and metates, Elko-style points, scraper planes and choppers, hammerstones, late discoidals, few mortars and pestles and an absence of shell artifacts (Sutton and Gardner 2010:8). Flexed inhumations under rock cairns and yucca and other seeds are also noted during this phase (Sutton and Gardener 2010:8).

The Greven Knoll Phases were replaced in the Study Area at about 1,000 BP by new cultural traditions with Takic influences moving east from the coastal areas (Sutton and Gardner 2010:34). Known as the Del Rey Tradition this period represents the development of the Gabrielino culture

in southern California (Sutton 2010). The Del Rey Tradition is divided into three phases for this area and referred to as the Angeles Phases.

6.1.2 Angeles Phase

Angeles Phase IV (1,000 to 800 BP) is characterized by Cottonwood-style arrow points, *Olivella* cupped beads and *Mytillus* shell disk beads, imported pottery and possibly ceramic pipes. Population increases lead to fewer but larger permanent settlements as well (Sutton 2010).

Angeles Phase V (800 to 450 BP) is characterized by an increase in both size and number of steatite ornaments and vessels, and more elaborate effigies (Sutton 2010). This phase also saw the development of the mainland Gabrielino dialect and a decline in exploitation of marine resources with an increase in use of small seeds (Sutton 2010). Settlement shifted from woodlands to open grasslands (Sutton 2010).

Angeles Phase VI (450 to 150 BP) reflects cultural patterns into the post-contact period (roughly AD 1542). One of the most noticeable changes would likely have been the extreme population loss due to disease and missionization of the native populations. *Olivella* shell beads drilled with metal needles, glass beads, and metal tools as well as locally made ceramics and the use of domesticated animals were noted in Angles VI (Sutton 2010).

6.2 Ethnography

Early Native American peoples of this area are poorly understood though the cultural traditions represented in archaeological data are presented above. The presence of occupation in this area by the ethnohistoric Gabrielino (*Tongva*) people began to be demonstrated about 1,000 years ago. The northern portion of the Santa Ana Mountains with the present-day communities of Irvine and Orange lie within the south-central portion of territory accepted as being home to the *Tongva* with the neighboring Juaneno and Cahuilla further south and east, respectively. Ethnohistorically the *Tongva* were semi-sedentary hunters and gatherers whose language is one of the Cupan languages in the Takic family, part of the Uto-Aztecan linguistic stock (Bean and Smith 1978).

The *Tongva* territory encompassed a vast area that stretched from Topanga Canyon in the northwest, to the base of Mount Wilson in the north, to San Bernardino in the east, Aliso Creek in the southeast and the Southern Channel Islands, in all an area of more than 2,500 square miles (Bean and Smith 1978, McCawley 1996). At European contact, the tribe consisted of more than 5,000 people living in various settlements throughout the area (McCawley 1996). Some of the villages could be quite large, housing up to 150 people. The *Tongva* are considered to have been one of the wealthiest tribes and they appear to have greatly influenced tribes they traded with (Kroeber 1976:621).

The *Tongva* practiced hunting and gathering economy and subsistence zones exploited were marine, woodland and grassland (Bean and Smith 1978). At the time of contact plant foods were the more significant part of the *Tongva* diet with acorns being the most important food source exploited. Therefore, it was necessary that villages be located near water sources to allow for the leaching or removal of tannic acids from the acorns. Grass seeds and chia were also heavily utilized. Seeds were parched then ground and cooked as mush in various combinations according to taste and availability. Other fruit and plant foods would be eaten raw or cooked and they could be dried for storage. Bulbs, roots, and tubers were dug in the spring and summer and usually eaten fresh. Mushrooms and tree fungus were prized as delicacies. Various teas were

made from flowers, fruits, stems, and roots for medicinal cures as well as beverages (Bean and Smith 1978:538-540).

The principal game animals were deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, quail, dove, ducks, and other birds (Bean and Smith 1978). Predators were largely avoided as food, as were tree squirrels and most reptiles (Bean and Smith 1978). Fresh water fish were caught in the streams and rivers, while salmon were available when they ran in the larger creeks (Bean and Smith 1978). Sea mammals, fish, and crustaceans were hunted and gathered from both the shoreline and the open ocean, using reed and dugout canoes by coastal *Tongva* groups. Shellfish were the most common resource, including abalone, turbans, mussels, clams, scallops, bubble shells, and others (Bean and Smith 1978:538-540).
Houses were domed, circular structures thatched with tule or similar materials (Bean and Smith 1978:542). The *Tongva* are renowned for their workmanship of steatite and these artifacts were highly prized (Bean and Smith 1978). Common everyday items were often decorated with inlaid shell or carvings reflecting the intricately developed skill (Bean and Smith 1978:542).

6.3 Historical Background

The earliest historical account of travel through the Study Area is commonly credited to the 1774 Spanish expedition of Juan Bautista de Anza, who was en-route from Sonora, Mexico to Monterey, California, for the purpose of supplying the mission and military communities. During this journey the group passed through the San Bernardino Valley on its way to Mission San Gabriel.

6.3.1 Early History

The Spanish and later, Mexican governments encouraged settlement of California by the establishment of large land grants called *ranchos.* These land titles (concessions) were government issued, permanent, unencumbered property-ownership rights, which were devoted to raising cattle and sheep. Of the 800 grants, Spain made about 30 between 1784 and 1821, the remainder, were granted by the Mexican government between 1833 and 1846. Lands encompassing the current Study Area were initially granted to Juan P. Ontiveros in 1837, as part of the 35,971-acre Rancho San Juan y Cajon de Santa Ana (Cowan 1956:82). With the annexation of California by the United States, this part of California was overrun with settlers, and native lands passed into Euro American hands. Subsequently, the surrounding land use gradually changed from ranching to farming and industry.

In the mid-1880s, George and Edward Malden, bought approximately 430 acres of land, surrounding the present-day Fullerton. As the Pacific Land and Improvement Company, a subsidiary of the Santa Fe Railway, was looking to acquire additional land, the Malden brothers offered free right of way and half interest in the land to the railroad. On July 5, 1887, Edward Malden formally staked his claim at what is now the intersection of Harbor Boulevard and Commonwealth Avenue.

6.3.2 Early Oil Exploration

While citrus seems to dominate this portion of California with Orange County boasting more orange groves than any other municipality in the Unites States, cultivation of walnuts and avocados flourished as well. And in 1880 with the discovery of Brea-Olinda Oil Field, the region experienced its first real boom that lasted well into the 1920s. Brea-Olinda Oil Field was the first commercial oil field in the Los Angeles area and by 1905 became the state's most productive oil site (Bushman 2012:4). Consequently, oil exploration in Orange County continued with Yorba Linda, Kraemer, Richfield near present day Irvine, and Signal Hill, Telegraph Hill, and Santa Fe

Springs near Long Beach, resulted in major oil discoveries. While the oil contributed to the growth of Southern California, it also brought attention to one of Southern California/s biggest problems – the scarcity of water.

6.3.3 Water Resources

The flood of 1916 and the agricultural growth of Orange County in the early 1920s gave rise to the need for improved flood protection of the county's coastal plain, and development of a system to replenish the ground water that was used at constantly increasing rate. In 1927 the Orange County Flood Control Act created the Orange County Flood Control District to both control and conserve flood and storm waters including overflow from the Santa Ana River (OC Public Works n.d.). Subsequently, numerous public works projects to control and maintain the flow of the Santa Ana River, were constructed including the Santiago Dam, which was completed in 1931 by a joint venture by the Irvine Company and Serrano Irrigation District. Currently, the dam marks the usual ending point of surface flow in Santiago Creek, as all the discharge is retained in the reservoir (Irvine Lake).

7.0 METHODOLOGY

Archaeological investigations reported herein consisted of a records search conducted at the SCCIC on December 9, 2020, a Sacred Lands File Search with the Native American Heritage Commission (NAHC) in Sacramento, as well as an intensive pedestrian survey of the entire Project Area. Provided below is the methodology used during the current study.

7.1 Records Search

A records search of the Study Area was conducted by SCCIC in-house staff on December 9, 2020. The search included a review of all previously recorded prehistoric and historic archaeological sites, as well as a review of all known cultural resources survey reports, excavation reports, and regional overviews. As part of the archival research at the SCCIC, the following sources were consulted: the California Archaeological Inventory Records, NRHP, California Historic Landmark Registry, California Points of Historical Interest, Inventory of Historic Structures, and Historical Landmarks for Orange County. Additionally, the following maps were consulted for presence of historic period features and built environment resources: Corona, CA (1902) and Santiago Peak, CA (1942) 30-minute topographic quadrangles, and the San Juan Capistrano, CA (1948, 1968) 7.5-minute topographic quadrangles.

7.1.1 Previous Archaeological Studies

Results of the records search indicated that no archaeological studies were previously conducted within the Project Area. However, six negative (Scientific Resource Surveys 1977b; Bissell 1992; Bonner 2006; Desautels 1981; Duke 2002; Shinn 1991) and 13 positive archaeological studies (Anonymous 1979, 2008; Bissell 1984, 1988; Bonner 2012; Bonner et al. 2014; Bonner and Crawford 2014; Breece 1991; Cameron 1986; Fulton and McLean 2009; Scientific Resource Surveys 1977b, 1981, 1983; Singer 1976) were previously conducted within a ½-mile radius of the Project Area (Table 1).

Table 1. Summary of Cultural Resource Studies Previously Conducted Within the Study Area

Author(s)	Date	Level of Investigation	Results	CHRIS Catalog No.	Intersects Project Area
Anonymous	1979	Excavation	Positive	OR-00460	No

Author(s)	Date	Level of Investigation	Results	CHRIS Catalog No.	Intersects Project Area
Anonymous	2008	Survey	Positive	OR-04179	No
Bissell, R.	1984	Survey	Positive	OR-00735	No
Bissell, R.	1988	Survey	Positive	OR-00938	No
Bissell, R.	1992	Survey	Negative	OR-01221	No
Bonner, W.	2006	Survey	Negative	OR-03121	No
Bonner, W.	2012	Survey	Positive	OR-04249	No
Bonner, D., C. Wils, and K. Crawford	2014	Survey	Positive	OR-04409	No
Bonner, W., and L. Crawford	2014	Survey	Positive	OR-04412	No
Breece, W.	1991	Survey	Positive	OR-01121	No
Cameron, C.	1986	Excavation	Positive	OR-00822	No
Desautels, N.	1981	Survey	Negative	OR-00628	No
Duke, C.	2002	Survey	Negative	OR-02399	No
Fulton, P., and R. McLean	2009	Survey	Positive	OR-03817	No
Scientific Resource Surveys	1977a	Survey	Positive	OR-00255	No
Scientific Resource Surveys	1977b	Survey	Negative	OR-00580	No
Scientific Resource Surveys	1981	Survey	Positive	OR-00641	No
Scientific Resource Surveys	1983	Survey	Positive	OR-00664	No
Shinn, J.	1991	Survey	Negative	OR-01183	No
Singer, C.	1976	Survey	Positive	OR-00549	No

7.1.2 Previously Documented Resources

The records search revealed that no cultural resources were previously documented within the Project Area. Four prehistoric resources were previously documented within ½-mile radius, but they are well outside of the Project Area and will not be affected by the proposed project (Table 2).

7.2 Native American Notification/Sacred Lands File Search

The 1992 Amendments to the NHPA require all Federal agencies to consult with Native American Tribes or Native Hawaiian organizations for undertakings which may affect properties of traditional

religious and cultural significance on or off Tribal lands. The Section 106 regulations (36 CFR 800) implementing the NHPA were revised on January 11, 2001 to reflect this change. Section 36 CFR 800.2(c)(2)(ii)(A) states that "the agency official shall ensure that consultation in the Section 106 process provides the Indian Tribe or Native Hawaiian organization a reasonable opportunity to identify its concerns about historic properties, including those of traditional religious and cultural importance, articulate its views on the undertaking's effects on such properties, and participate in the resolution of adverse effects." Additionally, California Public Resources Code Sections 5097.94(a) and 5097.96 authorize the NAHC in Sacramento to hold records of Native American sacred sites and burial sites. The NAHC also holds records of individuals that have particular expertise and knowledge in Native American resources.

Table 2. Summary of Known Cultural Resources Previously Documented Within the Study Area

Quad.	Trinomial	Primary No.	Component	Description	Proximity to Project Area
San Juan Capistrano	CA-ORA-436	30-00436	Prehistoric	Lithic scatter	Within ½-mile
San Juan Capistrano	CA-ORA-437	30-00437	Prehistoric	Habitation/village	Within ½-mile
San Juan Capistrano	CA-ORA-813	30-00813	Prehistoric	Habitation/village	Within ½-mile
San Juan Capistrano	CA-ORA-814	30-00814	Prehistoric	Habitation/village	Within ½-mile

On December 9, 2020, Stantec on behalf of the District, has contacted the NAHC and requested a Sacred Lands File search for the entire Study Area. The NAHC's records search of the Sacred Lands File was completed on February 26, 2021 with positive results. In addition, the NAHC provided a list of 23 Native American individuals/organizations to contact that may have information or knowledge regarding Native American and/or Tribal resources in the Study Area. Copies of correspondence related to Native American consultation are contained in Appendix A.

7.3 Field Methods

An intensive pedestrian survey of the Project Area was conducted on November, 2020, by Stantec archaeologist Mitch Marken. The survey commenced along Pacific Island Drive, just north of an existing Pacific Island Drive Pump Station No. 3 and continued north for approximately 0.4 miles. Survey transects were walked on both sided of Pacific Island Drive, which were spaced 10-15 meters apart and were walked parallel to the road.

Additionally, per the California Office of Historic Preservation (OHP 1995) guidelines, Stantec examined surface and subsurface exposures such as rodent burrows and cut banks for physical manifestations of human activity greater than 50 years in age. Documentation included field notes and photographs. The extent of the survey coverage was recorded with a Trimble Juno 5, hand-held GPS unit, with between 2 to 4-meter horizontal accuracy, with the Universal Transverse Mercator (UTM), North American Datum of 1983 (NAD 83), Zone 11, meters, as the spatial reference. Photographs were taken to document the built environment within the Project Area. Additional photos were taken with an iPhone 8 to document the topography and vegetation coverage within the Project Area. The extent of the survey coverage was drawn on the San Juan Capistrano, CA (1988) USGS 7.5-minute series topographic quadrangle (see Figure 2).

8.0 SURVEY RESULTS

The survey was conducted on November 6, 2020. The topography within the Project Area was relatively flat, with slope less than 5°. As the Project Area runs parallel to an existing paved roadway, most of the Project Area appeared to be located within previously disturbed context. The vegetation was relatively dense and obscured most of the Project Area, with ground visibility less than 30% (Figures 3 and 4). The survey did not identify any cultural resources.

Figure 3. Overview of the Project Area showing typical vegetation and topography, view south. Photo taken Nov. 6, 2020

Figure 4. View north of the Project Area showing typical vegetation encountered beyond the survey area. Photo taken on Nov. 6, 2020.

9.0 RECOMMENDATIONS AND MANAGEMENT CONSIDERATIONS

As part of the current archaeological study, approximately 3.5 acres of land were inventoried to determine whether significant cultural resources would be affected by the proposed project. The survey failed to identify any archaeological resources that could indicate human activities older than 50 years of age; therefore, no significant impacts to previously documented or undiscovered cultural resources are expected as part of the proposed development project.

The methods and techniques used by Stantec are considered adequate and satisfactory for the identification and evaluation of cultural resources visible at the ground surface. However, there is always a possibility that buried archaeological deposits could be found during construction and/or earth disturbing activities. In the event that cultural resources are encountered during construction activities, all work must stop, and a qualified archaeologist shall be contacted immediately. Further, in the event that any human remains are encountered or in the event that unassociated funerary objects or grave goods are discovered, State Health and Safety Code Section 7050.5 requires that no further work shall continue at the location of the find until the County Coroner has made all the necessary findings as to the origin and distribution of such remains pursuant to Public Code Resources Code Section 5097.98.

Based on the findings in this study the proposed project will not cause a substantial adverse change to the significance of cultural resources as defined in Section 15064.5. Therefore, no additional cultural resources studies are recommended or required at this time.

Tribal Cultural Resources are not addressed in this report. The results of AB 52 Consultation were not available at the time of this writing, however the Moulton Water District sent notifications to appropriate tribes and they are awaiting responses.

10.0 REFERENCES

Anonymous
1979 *Archaeological Test Excavation Report Site ORA-813 South Laguna.* Report on file at the South Central Coast Information Center, Fullerton.

2008 *Laguna Beach Historic Resources Inventory.* Report on file at the South Central Coast Information Center, Fullerton.

Bean, L.J. and C.R. Smith
1978 Gabrielino. In *Handbook of North American Indians*, Volume 8. *California*, volume edited by Robert F. Heizer, pp. 538-549 (W. T. Sturtevant, general editor). Smithsonian Institution, Washington, D.C.

Bissell, R.
1984 *Report of Archaeological Survey Tentative Tracts 8735 and 9702 South Laguna, Orange County, California.* Report on file at the South Central Coast Information Center, Fullerton.

1988 *Status of Cultural Resources in the Wood Canyon Area, Southern Orange County, California.* Report on file at the South Central Coast Information Center, Fullerton.

Bonner, W.
2006 *Cultural Resource Records Search Results and Site Visit for T-Mobile Candidate LA03627 (Pacific Island, 31250 Pacific Island Drive, Laguna Niguel, Orange County, California.* Report on file at the South Central Coast Information Center, Fullerton.

2012 *Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate LA3131 (Pacific Highland and Crown Valley Parkway) 31250 Pacific Island Drive, Laguna*

Niguel, Orange County, California. Report on file at the South Central Coast Information Center, Fullerton.

Bonner, W., C. Wils, and K. Crawford
2014 *Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate LA036270D (SC627 Pacific Island 2), 31250 Pacific Island Drive, Reservoir #3 Laguna Niguel, Orange County, California*. Report on file at the South Central Coast Information Center, Fullerton.

Bonner, W., and K. Crawford
2014 *Direct APE Historic Architectural Assessment for T-Mobile West, LLC Candidate LA03627D (SC627 Pacific Island 2), 31250 Pacific Island Drive, Reservoir #3, Laguna Niguel, Orange County, California*. Report on file at the South Central Coast Information Center, Fullerton.

Breece, W.
1991 *Results of the Archaeological Study for the Binion Property, Laguna Niguel, Orange County, California*. Report on file at the South Central Coast Information Center, Fullerton.

Bushman, J.
2012 Oil in Brea-Olinda. *County Courier, April, Vol. 42, No. 4*. Orange County Historical Society.

Cameron, C.
1986 *Archaeological Investigations at Laguna Sur CA-ORA-813, CA-ORA-436, CA-ORA-437*. Report on file at the South Central Coast Information Center, Fullerton.
Cowan, R. 1956. *Ranchos of California: a list of Spanish Concessions 1775-1822 and Mexican Grants 1822-1846*. Fresno: Academy Library Guild.

Desautels, N.
1981 *Archaeological Report on TT 11323 Located in the Three Arch Bay Community of South Laguna*. Report on file at the South Central Coast Information Center, Fullerton.

Duke, C.
2002 *Cultural Resource Assessment AT&T Wireless Services Facility No. 13336a, Orange County, California*. Report on file at the South Central Coast Information Center, Fullerton.

Elsasser, A. B.
1978 Development of Regional Prehistoric Cultures. In *Handbook of North American Indians*, Vol. 8, California, edited by R. F. Heizer, pp. 37-57. Washington: Smithsonian Institution.

Fulton, P., and R. McLean
2009 *Cultural Resource Assessment Verizon Wireless Services Pacific Island Facility, City of Laguna Niguel, Orange County, California*. Report on file at the South Central Coast Information Center, Fullerton.

Jahns, R.
1954 *Southern California Geology*. California Division of Mines Bulletin 170, San Francisco.

Kroeber, A.L.
1976 *Handbook of the Indians of California*. Dover Publications, Inc., New York. Reprint of 1925 book.

McCawley, W.

1996 *First Angelinos: the Gabrielino Indians of Los Angeles*. Malki Museum Press/Ballena Press, Banning, California.

Munz, P.
1974 *A Flora of Southern California*. University of California Press: Berkley.

Office of Historic Preservation (OHP)
1995 *Instructions for Recording Historical Resources*. California Department of Parks and Recreation, Office of Historic Preservation, Sacramento.

Orange County Public Works
(n.d.) Flood. *www.occom.OCParksublicworks.com/sections/flood*. Electronic document, accessed March 10, 2021.

Rundel, P., and R. Gustafson
2005 *Introduction to the Plant Life of Southern California: Coast to Foothills.* Oakland: University of California Press.

Scientific Resource Surveys
1977a *Archaeological Report on the Aliso Creek Corridor, Planning Units 2 and 3, Orange County, California.* Report on fie at the South Central Costal Information Center, Fullerton.

1977b *The Aliso Creek Watershed, Orange County, California a Proposal for Creating an Archaeological District for the National Register of Historic Places and a Suggested Research and Study Design.* Report on file at the South Central Coast Information Center, Fullerton.

1981 *Archaeological Report – Volume 1 Executive Summary on ORA-436, ORA-437 Test and Salvage Excavation.* Report on file at the South Central Coast Information Center, Fullerton.

1983 *Cultural Resource Report on Two Parcels of Land Located in the South Laguna Area.* Report on file at the South Central Coast Information Center, Fullerton.

Shinn, J.
1991 *A Cultural Resources Reconnaissance of the Han Property of Approximately 60.9 acres Located in Laguna Niguel, Orange County, California.* Report on file at the South Central Coast Information Center, Fullerton.

Singer, C.
1976 *Archaeological Survey and Resource Assessment of a Portion of Laguna Niguel, Orange County, California.* Report on file at the South Central Coast Information Center, Fullerton.

Sutton, M.
2010 The Del Rey Tradition and its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly* 44(2):1-54.

Sutton, M., and J. Gardner
2010 Reconceptualizing the Encinitas Tradition of Southern California. *Pacific Coast Archaeological Society Quarterly* 42(4):1-64.

Warren, C. N., and R. H. Crabtree
1986 Prehistory of the Southwestern Area. In *Handbook of North American Indians*, Vol. 8, California, edited by R. F. Heizer, pp. 183-193. Washington: Smithsonian Institution.

February 2022

Appendix C MITIGATION MONITORING AND REPORTING PROGRAM

1050-Zone Secondary Feed Pump Station and Transmission Main Project

Mitigation Monitoring and Reporting Program

February 2022

Prepared for:

Moulton Niguel Water District

Prepared by:

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Abbreviations

CAGN	Coastal California Gnatcatcher
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
IS/MND	Initial Study / Mitigated Negative Declaration
MMRP	Mitigation Monitoring and Reporting Program
MNWD	Moulton Niguel Water District
OCFS	Orange County Fire Authority
OCSD	Orange County Sheriff's Department
SVP	Society of Vertebrate Paleontology
USFWS	United States Fish and Wildlife Service
WEAP	Work Environmental Awareness Program

1.0 MITIGATION MONITORING AND REPORTING PROGRAM

Public Resources Code, Section 21081.6 (Assembly Bill 3180) requires that mitigation measures identified in environmental review documents prepared in accordance with California Environmental Quality Act (CEQA) are implemented after a project is approved. Therefore, this Mitigation Monitoring and Reporting Program (MMRP) has been prepared to ensure compliance with the adopted mitigation measures during the 1050-Zone Secondary Feed Pump Station and Transmission Main Project (proposed project). The Moulton Niguel Water District is the agency responsible for implementation of the mitigation measures identified in the Initial Study / Mitigated Negative Declaration (IS/MND).

This MMRP provides the Moulton Niguel Water District (MNWD) with a convenient mechanism for quickly reviewing all the mitigation measures including the ability to focus on select information such as timing. The MMRP includes the following information for each mitigation measure:

- The phase of the proposed project during which the required mitigation measure must be implemented;
- The phase of the proposed project during which the required mitigation measure must be monitored; and
- The monitoring agency.

The MMRP includes a checklist to be used during the mitigation monitoring period. The checklist will verify the name of the monitor, the date of the monitoring activity, and any related remarks for each mitigation measure.

Mitigation Monitoring and Reporting Program

Mitigation Measure	Implementation Phase	Monitoring Phase	Monitoring Agency	Compliance Verification	
				Initial	Date
Mitigation Measure BIO-1: Avoid Disturbance to Nesting Raptors and Other Migratory Birds To the extent feasible, vegetation removal activities shall be conducted during the non-nesting season (September 1 to February 14). If vegetation removal and/or construction including any ground-disturbing activities that have the potential to disturb nesting birds occur during the nesting season (February 15 to August 31), a qualified biologist shall conduct a pre-construction nesting birds survey prior to vegetation removal or ground-disturbing activities with the following criteria: • Surveys shall be conducted within the proposed project site and all potential nesting habitat for avian species within 300 feet. For federally and/or State-listed species (e.g., Coastal California Gnatcatcher [CAGN]) and raptor species, the survey area shall be expanded to a 500 foot buffer of the proposed project site. • The surveys should be conducted within 3 days of the initiation of construction activities at any time between February 15 and August 31. If no active nests are detected, then no additional measures would be required. • If surveys indicate the presence of an active nest, construction activities shall stay outside of a 300-foot buffer around the active nest. For listed species and raptor species, this buffer shall be 500 feet. A biological monitor shall be present to delineate the boundaries of the buffer area and to monitor the active nest until the young have successfully fledged or the nest has been abandoned. • Results of the pre-construction survey and any subsequent monitoring shall be provided to the California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS) if a federally listed species is observed during the survey. • If smaller nest buffer is warranted, the biologist shall consult with the appropriate regulatory agency regarding appropriate protection measures and establish an appropriate exclusion zone around the nest in which no work would be allowed until the young have successfully fledged or the nest has been abandoned. The size of the exclusion zone shall depend on the status of the species present, the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, other topographical or artificial barriers, and the sensitivity of the nesting bird to the disturbance. In general, exclusion zones of up to 500 feet	Pre-Construction and during construction	During construction	MNWD or chosen contractor		

for listed species and raptors and 50 to 300 feet for passerines should be sufficient to prevent substantial disturbance to nesting birds. • If nesting birds are documented to have established themselves in a given location within the proposed project site during pre-existing construction activities, then it shall be assumed that the nesting birds are habituated to the construction activities. Under this scenario, the active nest shall be monitored by a qualified biologist periodically until the young have successfully fledged or the nest has been abandoned, as described above.					
Mitigation Measure PALEO-1: Worker Training A qualified paleontologist meeting the standards of the Society of Vertebrate Paleontology (SVP) will develop a Worker Environmental Awareness Program (WEAP) training to be delivered to the construction crew by the paleontologist, their designee, or through a pre-recorded video before the onset of ground disturbance. This brief training will explain the legal protection of paleontological resources, what sorts of resources may be encountered in the Project area, steps to follow in the event of a resource discovery, and safety information for working with paleontological monitors.	Pre-Construction and during construction	During construction	MNWD or chosen contractor		
Mitigation Measure PALEO-2: Paleontological Monitoring A qualified paleontological monitor working under the supervision of the qualified paleontologist will conduct full-time monitoring of ground disturbance during Project construction. Monitoring will consist of observation of excavation work on native soils and monitoring associated spoil piles. Should subsurface conditions indicate conditions not favorable for the preservation of paleontological resources, the qualified paleontologist may reduce or halt monitoring. At the completion of ground disturbance, the qualified paleontologist will draft a letter report outlining the methods and results of the monitoring program.	During construction	During construction	MNWD or chosen contractor		
Mitigation Measure PALEO-3: Inadvertent Discovery In the event that paleontological resources are encountered during construction activities, all work must stop in the immediate vicinity of the finds for a safe distance while the paleontological monitor documents the find and the qualified paleontologist assesses the find. Should the qualified paleontologist assess the find as significant, it should be collected and curated in an accredited repository along with all necessary associated data and requisite curation fees.	During construction	During construction	MNWD or chosen contractor		

TRANS-1: Emergency Access Notification Prior to commencing construction, MNWD shall notify the Orange County Fire Authority (OCFA) and the Orange County Sheriff's Department (OCSD) of construction activities that would impede movement (such as lane closures) along proposed project alignment to allow emergency response teams to reroute to alternative routes, if needed.	Prior to construction	Prior to construction	MNWD or chosen contractor		
Mitigation Measure CUL-1: Tribal Monitoring A qualified tribal monitor will conduct full-time monitoring of ground disturbance during Project construction. Monitoring will consist of observation of excavation work on native soils and monitoring associated spoil piles. The Monitor shall coordinate with the Juaneno Band of Mission Indians Tribe when perforing these activities. Should subsurface conditions indicate conditions not favorable for the preservation of tribal resources, the qualified tribal monitor may reduce or halt monitoring. At the completion of ground disturbance, the qualified tribal monitor will draft a letter report outlining the methods and results of the monitoring program.	During construction	During construction	MNWD or chosen contractor		
Mitigation Measure CUL-2: Inadvertent Discovery **I**n the event that tribal resources are encountered during construction activities, all work must stop in the immediate vicinity of the finds for a safe distance while the tribal monitor documents the find and the qualified tribal monitor assesses the find. Should the qualified tribal monitor assess the find as significant, it should be collected and curated in an accredited repository along with all necessary associated data.	During construction	During construction	MNWD or chosen contractor		