Reservoir 2B Replacement Project

Final Initial Study – Mitigated Negative Declaration

prepared by

South Coast Water District
31592 West Street
Laguna Beach, California 92651
Contact: Taryn Kjolsing, Engineering Manager

prepared with the assistance of

Rincon Consultants, Inc.
250 East 1st Street, Suite 1400
Los Angeles, California 90012

June 2022

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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Initial Study

1. Project Title

Reservoir 2B Replacement Project

2. Lead Agency Name and Address

South Coast Water District
31592 West Street
Laguna Beach, California 92651

3. Contact Person and Phone Number

Taryn Kjolsing, PE, Engineering Manager
South Coast Water District
(949) 342-1154

4. Project Location

The project site is located in the city of Laguna Beach in southwestern Orange County. The project site consists of Assessor's Parcel Numbers (APN) 658-191-03, 658-191-04, and 056-051-29. The project site currently contains the South Coast Water District (SCWD) Reservoir 2B, which is a white, approximately 30-foot-diameter, 0.1-million-gallon aboveground water storage reservoir, as well as an unpaved access road. The reservoir is surrounded by a chain link fence. Access to Reservoir 2B is provided by a steep, winding, unpaved road off Ceanothus Drive, which is also used by members of the public as a connector trail between Ceanothus Drive and Toovet Trail. Figure 1 shows the project site location in a regional context. Figure 2 depict the project site location at a local scale.

5. Project Sponsor's Name and Address

South Coast Water District
31592 West Street
Laguna Beach, California 92651

6. General Plan Designation

The project site is designated by the Laguna Beach General Plan/Local Coastal Program as Open Space (OS; APNs 658-191-03 and 658-191-04) and Open Space -Residential/Hillside Protection (OS-RHP; APN 056-051-29) (City of Laguna Beach 2021a).

Figure 1 Regional Project Location

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Project Location

N

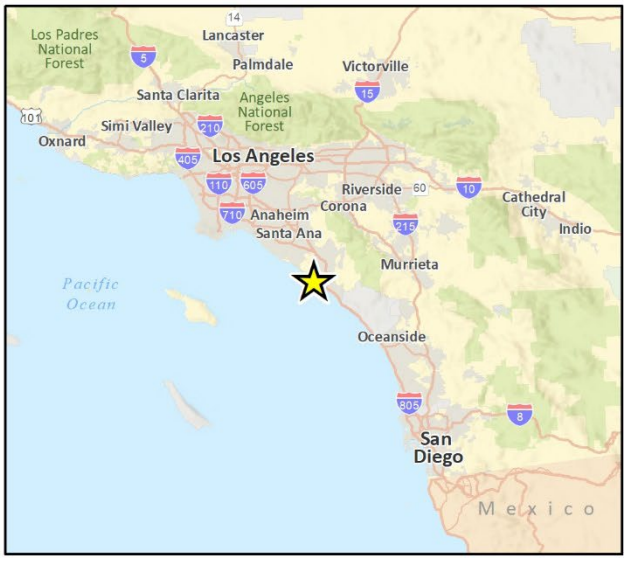
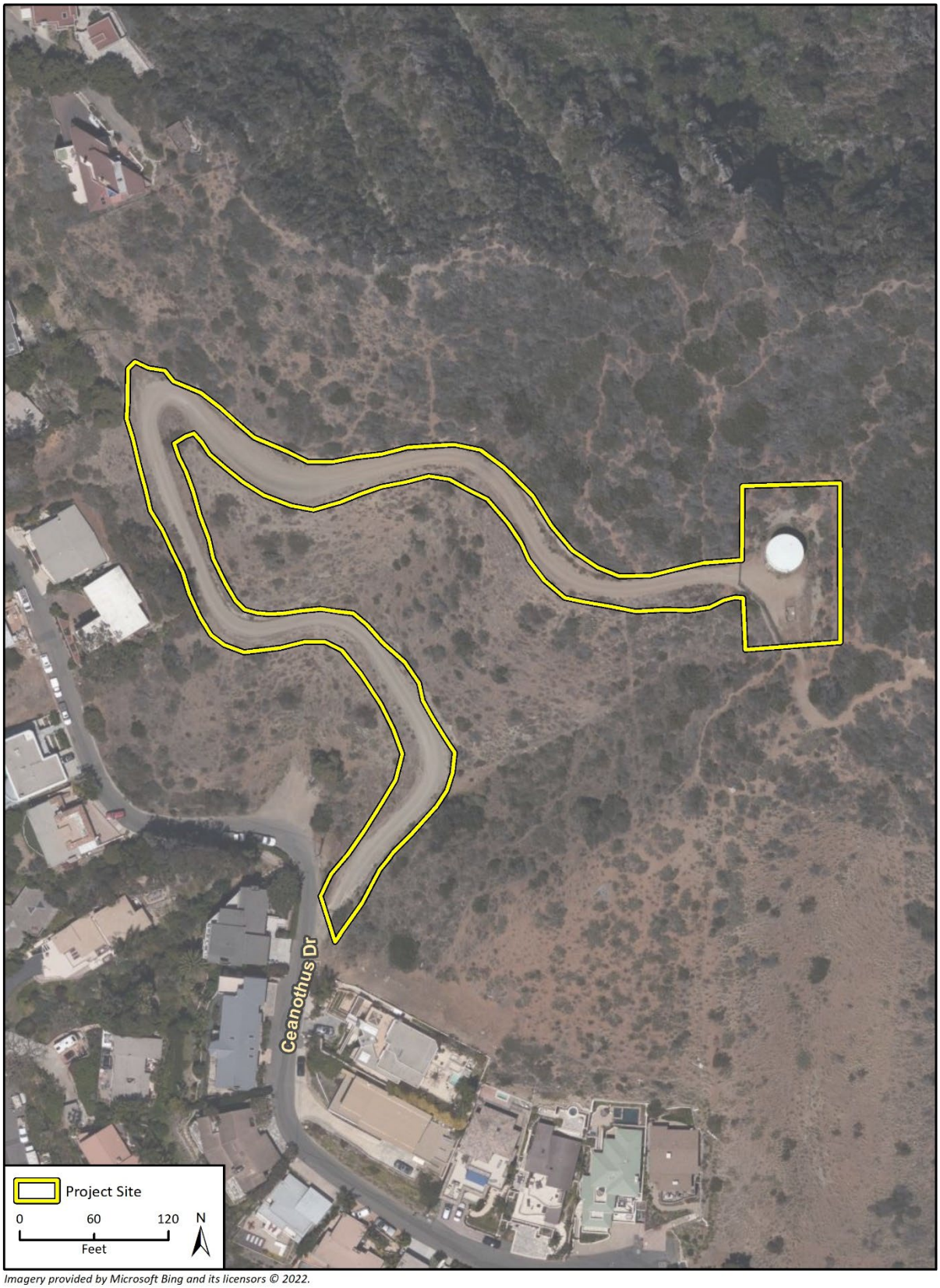


Figure 2 Project Site Location



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7. Zoning

The project site is zoned as Open Space/Conservation (OS/C; APNs 658-191-03 and 658-191-04) and Open Space/Conservation-Residential/Hillside Protection Zone (OS/C-R/HP; APN 056-051-29) (City of Laguna Beach 2021a).

8. Description of Project

The SCWD Reservoir 2B Replacement Project (herein referred to as "proposed project" or "project") would include demolition of the existing Reservoir 2B and construction of two new aboveground 0.1-million-gallon (MG) reservoirs. The purpose of the proposed project is to provide additional capacity for SCWD's 490-pressure zone and contribute to providing an additional 0.1 MG of operational, fire, and emergency storage for this zone.

The existing Reservoir 2B, which would be demolished, is an aboveground, 0.1-MG steel welded reservoir that is approximately 30 feet in diameter and approximately 19 feet in height and was installed in 1946. The existing reservoir would be replaced by two 0.1-MG aboveground steel reservoirs, each approximately 33 feet in diameter and approximately 24 feet in height. The new reservoirs would be light blue in color, consistent with SCWD's standard tank design. Figure 3 shows the site layout of the proposed project.

As part of the project, a new electrical service feeder would be installed underneath the existing access road, which would connect from electrical equipment at the reservoir location to a new San Diego Gas & Electric (SDG&E) aboveground 240/480-volt meter pedestal and aboveground transformer located at the intersection of the access road and Ceanothus Drive. The existing 120/240-volt service feeder and corresponding meter pedestal to the southeast of Reservoir 2B would be abandoned in place following the installation of the new power supply elements.

The project includes drainage improvements to address stormwater runoff that would consist of three culverts ranging in diameter from 15 to 21 inches, six energy dissipators and/or rip-rap hard surfaces, and a concrete v-ditch. All drainage improvements would be installed within 10 feet of the existing access road with the exception of the culvert and energy dissipator immediately south of the reservoir location, which would be installed within 30 feet of the existing disturbed footprint of the reservoir location. The project also includes asphalt paving of the existing unpaved access road.

Construction Activities

The proposed project would be constructed over the course of approximately ten months during 2022 and 2023. Construction activities would consist of demolition, site preparation (including slope stabilization and pad expansion), grading, reservoir installation, installation of electrical and piping infrastructure, testing and disinfection activities, and site restoration. Project construction would also include installing a new drain line from both reservoirs to tie into the existing drain line on the project site, a retaining wall around the perimeter of the replacement reservoir footprints, a tank inlet/outlet pipe vault, an altitude valve, a manifold, new electrical service, new antenna, and a power and control interface with the District's SCADA system.

Approximately 15 hauling trips would be required to export the demolished existing reservoir. Asbestos or lead-based paint/coatings may be present on the existing infrastructure to be demolished. If present, the existing infrastructure would be demolished and disposed of in accordance with all applicable regulations, including South Coast Air Quality Management District

(SCAQMD) Rule 1403 (Asbestos Demolition and Removal), which requires that the owner or operator of any demolition activity have an asbestos survey performed prior to demolition, notification of SCAQMD prior to demolition activities, and implementation of asbestos containment procedures, as well as California Code of Regulations, Section 1532.1, which requires testing, monitoring, containment, and disposal of lead-based materials such that exposure levels do not exceed California Occupational Safety and Health Administration standards. Proposed grading activities would require approximately 170 cubic yards of soil export and 10 cubic yards of soil import. The depth of disturbance for the reservoir replacement would be approximately six feet, and the depth of disturbance for the drainage, power supply, and access road improvements would be approximately four feet.

All construction work associated with replacement of the reservoir would occur within the current fenced limits of the parcel. Construction work associated with the drainage, power supply, and access road improvements would occur within the existing unpaved road and up to 10 feet on either side of the road. Construction activities would generally occur five days per week, between 8:00 a.m. and 5:00 p.m. Construction staging would occur at the SCWD facility off Stonehill Drive. Construction workers would park at off-site locations and in available turnouts along the existing access road and along nearby existing paved roadways.

Operations and Maintenance

The project would not require additional maintenance trips beyond those currently occurring to the site under existing SCWD operations. The project would not include components that would generate noise during operation and the project would not require an increase in electricity usage for pumping water. Minor new light sources would be installed and would consist of manually-operated site lighting that would only be utilized if emergency nighttime maintenance is required. Security fencing will be included and improved.

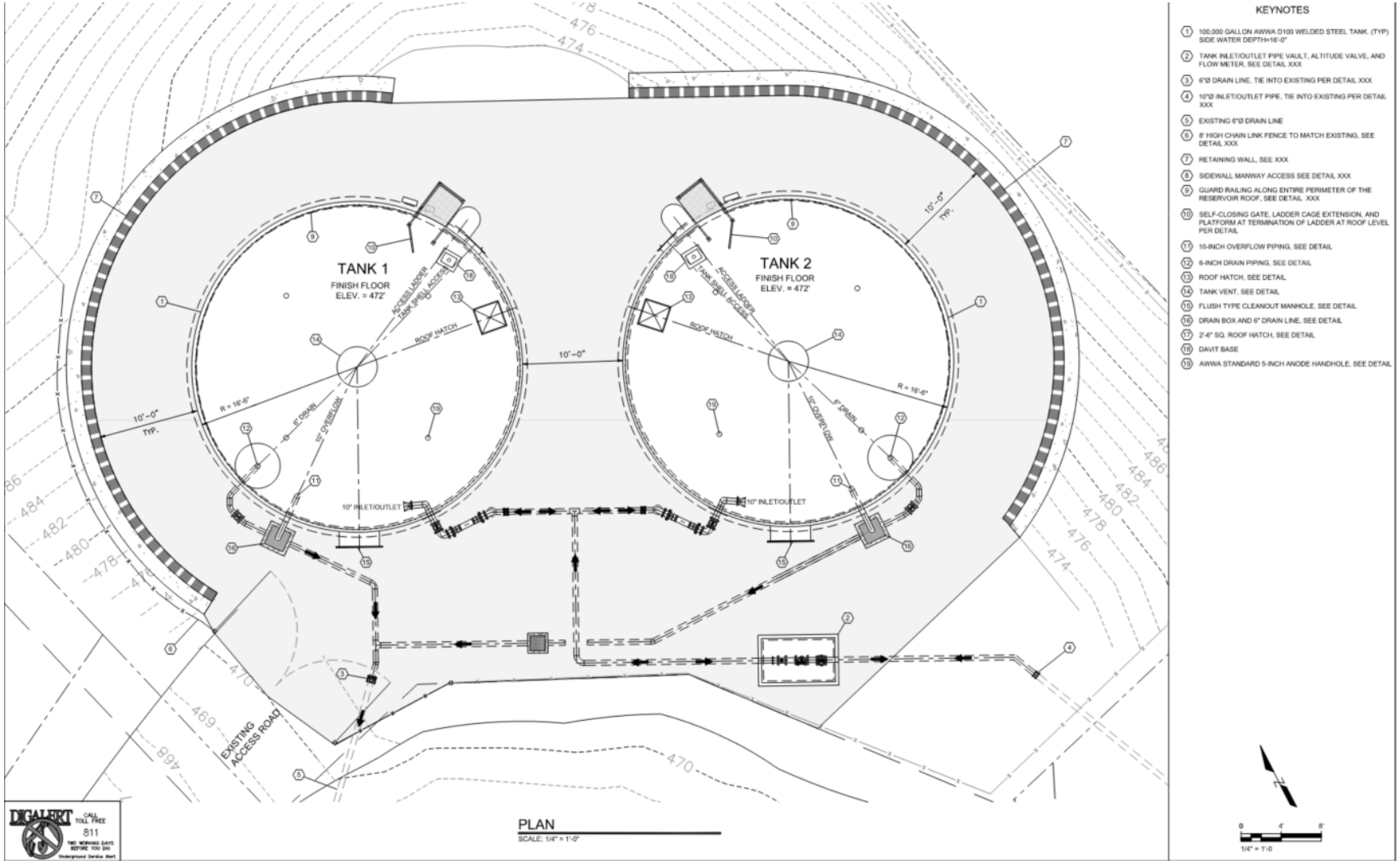
9. Surrounding Land Uses and Setting

The project site is situated in a hilly wildland-urban interface above a residential neighborhood and is surrounded by open space and residential land uses. Toovet Trail, which is part of Aliso and Wood Canyons Wilderness Park, commences immediately south of the fenced reservoir property at the terminus of the unpaved access road. Aliso Peak is located approximately 270 feet northeast of the project site.

10. Other Public Agencies Whose Approval is Required

The City of Laguna Beach would be responsible for issuing a coastal development permit, grading permit, building permit, and antenna permit for the proposed project. Other permits from the Regional Water Quality Control Board (RWQCB), State Water Resources Control Board (SWRCB), California Department of Fish and Wildlife (CDFW) may be required as well.

Figure 3 Preliminary Site Layout of Replacement Reservoirs



Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is a "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

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

Determination

Based on this initial evaluation:

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

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

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

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

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

Signature

May 16, 2022

Date

Taryn Kjolsing

Printed Name

Engineering Manager

Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	■	☐
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	■	☐
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from 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 that would adversely affect daytime or nighttime views in the area?	☐	☐	■	☐

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

The proposed project is located within the city of Laguna Beach in Orange County. According to the City's General Plan/Local Coastal Program Landscape and Scenic Highways Element, scenic features in Laguna Beach consists of rocky cliffs, tide pools, the ocean, beaches, Laguna Canyon, Aliso Canyon, and the San Joaquin Hills as seen from public viewpoints. The concept of "scenic" depends upon how much of the natural landscape can be seen by travelers, the visual quality of the landscape, and the extent to which development does not intrude upon the traveler's enjoyment of the view (City of Laguna Beach 2018). The Landscape and Scenic Highways Element also includes scenic protection policies for preserving neighborhood character, parks, and significant trees.

The project site is surrounded by open space and residential uses. Scenic vistas from public vantage points near the project site include views of the Aliso and Wood Canyons Wilderness Park to the northeast of the project site and broad views of the ocean and beaches to the west. Due to

intervening topography and development, the only public vantage point from which the reservoir location is visible is the terminus of the Toovet Trail immediately south of the reservoir location. In addition, the access road is only visible by motorists along Ceanothus Drive traveling through the residential neighborhood.

During construction of the proposed project, construction equipment would be temporarily staged and operated at the project site and would be visible from Toovet Trail and Ceanothus Drive. However, expansive views of the ocean and beaches from the terminus of Toovet Trail are located to the west of this trail, and the project site is located to the north. As a result, construction equipment at the project site would not block public views of scenic vistas as viewed from Toovet Trail. Furthermore, the obstruction of scenic vistas of the hillsides surrounding the project site as viewed from Ceanothus Drive would be incremental, temporary, and short-term (duration of less than one year). Once complete, the proposed project would not alter scenic vistas from their existing conditions because the two reservoirs would not obstruct views of the ocean and beaches as seen from the terminus of Toovet Trail and the drainage, power supply, and access road improvements would occur along an existing unpaved road and would only marginally change its appearance by potentially introducing pavement. In addition, no trees would be removed due to construction of the project. Therefore, project impacts to scenic vistas would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The Landscape and Scenic Highways Element of the City's General Plan/Local Coastal Program defines scenic highways as a roadway that is located in an area of outstanding natural beauty, providing exceptional views of natural landscapes and attractive man-made development and a scenic corridor as "the land adjacent to a scenic highway, outside of the right-of-way that is being viewed from the road" (City of Laguna Beach 2018). No officially designated State scenic highways are located in the vicinity of the project site. State Route 1 (Coast Highway), which runs parallel to the project site approximately 0.1 mile to the west, is eligible for designation as a State scenic highway but is not officially designated (California Department of Transportation [Caltrans] 2018). State Route 1 is also identified by the City as a scenic highway, along with Laguna Canyon Road and El Toro Road (City of Laguna Beach 2018).

The project site is not visible from State Route 1, Laguna Canyon Road, or El Toro Road due to intervening topography and development. Therefore, the project would not substantially damage scenic resources within a State scenic highway, and no impact would occur.

NO IMPACT

c. Would the project, 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?

The project site is located in an open space area on the edge of an urbanized area in the city of Laguna Beach. Public utility facilities are not a permitted use in the OS/C zone (LBMC Sections 25.41.004 and 25.41.006); however, per LBMC Section 25.56.018, any public utility use existing in

any building or structure or on any premises at the time of the adoption of the zoning ordinance (i.e., 1994) shall be deemed to be a conforming use or a conforming structure in whatever district said use is conducted or whatever district said structure is located. The existing Reservoir 2B was constructed in 1946 (Thomas and McCarthy-Reid 2017); therefore, the public utility use of the project site is a conforming use and would not conflict with the applicable zoning and other regulations governing scenic quality. Furthermore, due to intervening topography and development, the only public vantage point from which the reservoir location is visible is the terminus of the Toovet Trail immediately south of the reservoir location. In addition, the access road is only visible by motorists along Ceanothus Drive traveling through the residential neighborhood. The project would replace the existing Reservoir 2B with new aboveground reservoirs of similar size, material, and color, pave the existing unpaved access road and install small aboveground electrical equipment (a meter and transformer), thereby resulting in minimal changes to the existing visual character and quality of public views of the project site and its surroundings. Therefore, the project would not conflict with applicable zoning and other regulations governing scenic quality and would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Construction would generally occur during the daytime hours, although temporary lighting may be required during late afternoon hours during the winter months. In this event, lights may be visible from surrounding roadways and residential and other land uses. However, the lighting would not face toward adjacent uses and would be directed down towards construction activities. Any necessary lights during construction activities would create a new temporary light source that would otherwise not be present.

Minor new light sources would be installed and would consist of manually-operated site lighting that would only be utilized in limited circumstances if emergency nighttime maintenance is required. In addition, the reservoir would be constructed of non-reflective material.

In summary, the project would not create a new source of permanent substantial light or glare that would adversely affect daytime or nighttime views in the vicinity of the project site. Temporary lighting may be required periodically during construction of the project, but it would be removed once construction is complete. Therefore, impacts related to light and glare would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	■
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	■
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	■
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	■

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

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

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))?

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

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?

The project site is not located on or near land mapped as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance mapped by the California Department of Conservation's (CDOC) Farmland Mapping and Monitoring Program (CDOC 2016a). In addition, the project site is not on land enrolled under the Williamson Act or zoned for agricultural use (City of Laguna Beach 2021a). The project site does not include forest land and is not zoned for forest land and timberland (City of Laguna Beach 2021a). Therefore, due to the absence of agricultural land, forest land, and timberland at the project site, the project would not involve changes to the existing environment that could result in conversion of Farmland to a non-agricultural use or the conversion of forest land to non-forest use. The project also would not conflict with existing zoning for agriculture use, forest land, or timberland or a Williamson Act contract. No impact to agriculture and forestry resources would occur.

NO IMPACT

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
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?	☐	☐	■	☐

Air Quality Standards and Attainment

The project area is within the South Coast Air Basin (SCAB) which is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The SCAB is under the regulatory jurisdiction of the South Coast Air Quality Management District (SCAQMD). As the local air quality management agency, the SCAQMD is required to monitor air pollutant levels to ensure that National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are met and, if they are not met, to develop strategies to meet the standards.

Depending on whether the standards are met or exceeded, the SCAB is classified as being in "attainment" or "nonattainment" for air quality. The SCAQMD's 2016 Air Quality Management Plan (AQMP) assesses the attainment status of the SCAB. The NAAQS and CAAQS attainment statuses for the SCAB are listed in Table 1. As shown therein, the SCAB is in nonattainment for the federal standards for ozone and particulate matter 2.5 microns or less in diameter ($PM_{2.5}$) and the State standards for ozone, particulate matter 10 microns or less in diameter (PM_{10}), and $PM_{2.5}$. Areas of the SCAB located in Los Angeles County are also in nonattainment for lead (SCAQMD 2017). The SCAB is designated unclassifiable or in attainment for all other federal and State standards. Because the SCAB is currently designated nonattainment for several State and federal ambient air quality standards, the SCAQMD is required to implement strategies that would reduce pollutant levels to recognized acceptable standards. The SCAQMD has adopted an AQMP that provides a strategy for the attainment of State and federal air quality standards.

Table 1 South Coast Air Basin Attainment Status

Pollutant	Standard	Designation
1-Hour Ozone	NAAQS CAAQS	Nonattainment (Extreme) Nonattainment
8-Hour Ozone	NAAQS CAAQS	Nonattainment (Extreme) Nonattainment
CO	NAAQS CAAQS	Attainment (Maintenance) Attainment
NO_2	NAAQS CAAQS	Unclassifiable/Attainment Attainment
SO_2	NAAQS CAAQS	Designations Pending/Unclassifiable/Attainment Attainment
PM_{10}	NAAQS CAAQS	Attainment (Maintenance) Nonattainment
$PM_{2.5}$ (24-hour) $PM_{2.5}$ (Annual)	NAAQS CAAQS	Nonattainment (Serious) Nonattainment
Lead	NAAQS CAAQS	Nonattainment (Partial)[1] Attainment
Hydrogen Sulfide	CAAQS	Unclassified
Sulfates	CAAQS	Attainment

NAAQS: National Ambient Air Quality Standards; CAAQS: California Ambient Air Quality Standards; CO: carbon monoxide; PM_{10}: particulate matter 10 microns or less in size; $PM_{2.5}$: particulate matter 2.5 microns or less in size; NO_2: nitrogen dioxide; SO_2: sulfur dioxide

[1] Designated Nonattainment (Partial) for the Los Angeles County portion of the SCAB only for near-source monitors. Los Angeles County is expected to remain in attainment based on current monitoring data, and the attainment re-designation request is pending.

Source: SCAQMD 2017; United States Environmental Protection Agency 2021a and 2021b

Air Quality Management

Under State law, the SCAQMD is required to prepare a plan for air quality improvement for pollutants for which its jurisdiction is in nonattainment. The SCAQMD has adopted an AQMP that provides a strategy for the attainment of State and federal air quality standards. The SCAQMD updates the AQMP every three years. Each iteration of the AQMP is an update of the previous plan and has a 20-year horizon. The latest AQMP, the 2016 AQMP, was adopted on March 3, 2017. The 2016 AQMP incorporates new scientific data and notable regulatory actions that have occurred since adoption of the 2012 AQMP, including the approval of the new federal 8-hour ozone standard of 0.070 parts per million (ppm) that was finalized in 2015. The 2016 AQMP builds upon the approaches taken in the 2012 AQMP for the attainment of federal particulate matter and ozone standards and highlights the significant amount of reductions to be achieved. It emphasizes the need for interagency planning to identify additional strategies to achieve reductions within the timeframes allowed under the federal Clean Air Act, especially in the area of mobile sources. The 2016 AQMP also includes a discussion of emerging issues and opportunities, such as fugitive toxic

particulate emissions, zero-emission mobile source control strategies, and the interacting dynamics among climate, energy, and air pollution. The 2016 AQMP also includes attainment demonstrations of the new federal 8-hour ozone standard and vehicle miles travelled (VMT) emissions offsets, as per recent United States Environmental Protection Agency requirements (SCAQMD 2017).

Air Emission Thresholds

The SCAQMD provides numerical thresholds to analyze the significance of a project's construction and operational emissions impacts on regional air quality. These thresholds, listed in Table 2, are designed such that a project consistent with the thresholds would not have an individually or cumulatively significant impact to the SCAB's air quality.

Table 2 SCAQMD Air Quality Significance Thresholds

	Mass Daily Thresholds	
Pollutant	**Construction Thresholds (pounds/day)**	**Operational Thresholds (pounds/day)**
NO_X	100	55
VOC[1]	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550
Lead	3	3

NO_X = nitrogen oxides; VOC = volatile organic compounds; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; SO_X = sulfur oxides; CO = carbon monoxide

Source: SCAQMD 2019

In addition to the above thresholds, the SCAQMD has developed Localized Significance Thresholds (LSTs) in response to the Governing Board's Environmental Justice Enhancement Initiative (1-4), which was prepared to update the CEQA Air Quality Handbook. LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities and have been developed for nitrogen oxides (NO_X), carbon monoxide, PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or State ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each SRA, distance to the sensitive receptor, and project size. LSTs only apply to emissions within a fixed stationary location and are not applicable to mobile sources, such as cars on a roadway (SCAQMD 2008a). According to the SCAQMD (2008) *Final Localized Significant Thresholds Methodology*, the use of LSTs is voluntary, to be implemented at the discretion of local agencies.

The project site is located in SRA 20, Central Orange County Coastal, and is approximately 1.1 acres in size (SCAQMD 2008a). LSTs have been developed for emissions within construction areas up to five acres in size. The SCAQMD provides lookup tables for sites that measure up to one, two, or five acres. Pursuant to SCAQMD guidance, the LSTs for a one-acre site were conservatively utilized to evaluate project impacts. LSTs are provided for receptors at a distance of 25 to 500 meters (82 to

1,640 feet) from the project site boundary. The closest sensitive receptors to the project site are residences located approximately 30 feet from the southern terminus of the access road. According to the SCAQMD's LST methodology, projects with boundaries closer than 25 meters (82 feet) to the nearest receptor should use the LSTs for receptors located at 25 meters (SCAQMD 2008). Accordingly, LSTs for construction on a one-acre site in SRA 20 for a receptor at 25 meters, shown in Table 3, are utilized in this analysis.

Table 3 SCAQMD LSTs for Construction

Pollutant	Allowable Emissions from a One-acre Site in SRA 20 for a Receptor at 25 Meters, or 82 Feet (pounds/day)
Gradual conversion of NO_x to NO_2	92
CO	647
PM_{10}	4
$PM_{2.5}$	3

SRA: Source Receptor Area; NO_X: nitrogen oxides; NO_2: nitrogen dioxide; CO: carbon monoxide; PM_{10}: particulate matter 10 microns or less in diameter; $PM_{2.5}$: particulate matter 2.5 microns or less in diameter

Source: SCAQMD 2009

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

A project may be inconsistent with the AQMP if it would generate population, housing, or employment growth exceeding the forecasts used in the development of the AQMP. The proposed project would involve the replacement of an existing reservoir with two new reservoirs, resulting in a 0.1 MG increase in total storage capacity. The project does not include new housing or businesses, and operation and maintenance of the proposed project would not require new employees. Therefore, the project would not directly generate population, housing, or employment growth. In addition, the proposed project would provide an additional 0.1-MG of capacity for SCWD's 490-pressure zone, which would allow SCWD to better serve existing demand and planned growth in its service area as well as improve SCWD's ability to provide water supplies for firefighting and emergency storage. The proposed project is not intended to serve unplanned growth, and acquisition of new water supplies is not proposed by or required for the project. As a result, the project would not exceed the Southern California Association of Governments' projected growth forecasts, which underlie the emissions forecasts in the 2016 AQMP. Therefore, the project would not conflict with or obstruct implementation of the AQMP. No impact would occur.

NO IMPACT

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?

Construction Emissions

The project would generate short-term criteria air pollutant emissions associated with project construction due to the operation of heavy construction equipment, dust from excavation, haul trips, and construction worker trips. Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0. CalEEMod is used by jurisdictions

throughout California to quantify criteria pollutant emissions. Complete CalEEMod assumptions and results are contained in Appendix A.

The proposed project would be constructed over the course of approximately 10 months in 2022 and 2023. For the purposes of modeling, this analysis relied upon the following assumptions:

- Construction of the proposed project would disturb approximately 1.06 acre in total
- Approximately 170 cubic yards of soil would be exported, and approximately 10 cubic yards of soil would be imported
- Construction crews would work five days per week for up to ten hours per day

Table 4 summarizes maximum daily air pollutant emissions during project construction. As shown therein, project construction emissions would not exceed the SCAQMD's regional thresholds or LSTs. Therefore, project construction would not 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, and impacts would be less than significant.

Table 4 Estimated Maximum Construction Daily Emissions

	Emissions (pounds per day)					
Construction Year	**VOC**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
2022	4.2	42.2	31.9	0.1	8.1	4.7
2023	1.9	14.0	16.4	< 0.1	0.9	0.6
Total Maximum Daily Emissions	4.2	42.2	31.9	0.1	8.1	4.7
SCAQMD Regional Thresholds	55	55	550	150	150	150
Threshold Exceeded?	No	No	No	No	No	No
Maximum Daily On-site Emissions	2.1	21.6	18.8	< 1	3.8	2.3
SCAQMD Localized Significance Thresholds	N/A	92	647	N/A	4	3
Threshold Exceeded?	N/A	No	No	N/A	No	No

VOC = volatile organic compounds; NO_x = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur oxides; PM_{10}: particulate matter 10 microns or less in diameter; $PM_{2.5}$: particulate matter 2.5 microns or less in diameter

Notes: Some numbers may not add up precisely due to rounding. Maximum on-site emissions are the highest emissions that would occur on the project site from on-site sources, such as heavy construction equipment and architectural coatings, and excludes off-site emissions from sources such as construction worker vehicle trips and haul truck trips. All emissions were estimated using CalEEMod. See Appendix B for CalEEMod output files.

Operational Emissions

As described under *Description of Project*, the project would not require additional maintenance trips beyond those currently occurring to the site under existing SCWD operations and would not require an increase in electricity usage for pumping water. Therefore, no increase in operational criteria air pollutant emissions would occur. As a result, project operation would not 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, and no impact would occur.

LESS THAN SIGNIFICANT IMPACT

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

Sensitive receptors typically include residences, schools, healthcare facilities, and other live-in housing facilities such as prisons or dormitories. The closest sensitive receptors to the reservoir location are residences approximately 375 feet to the south, and the closest sensitive receptors to the access road location are residences approximately 30 feet to the west of the southern terminus of the access road.

Carbon Monoxide Hotspots

A carbon monoxide hotspot is a localized concentration of carbon monoxide that is above a carbon monoxide ambient air quality standard. Localized carbon monoxide hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local carbon monoxide concentration exceeds the federal one-hour standard of 35.0 ppm or the federal and State eight-hour standard of 9.0 ppm (SCAQMD 2017).

The entire SCAB is in conformance with State and federal carbon monoxide standards, and most air quality monitoring stations no longer report carbon monoxide levels. In 2020, the maximum 8-hour average carbon monoxide value at the Mission Viejo-26081 Via Pera monitoring station (located approximately 9.1 miles northeast of the project site) was 1.2 ppm, which is below the State and federal 8-hour carbon monoxide standard of 9.0 ppm (United States Environmental Protection Agency 2021c). As shown in Table 4, maximum daily carbon monoxide emissions generated by project construction would be approximately 32 pounds, and maximum on-site emissions would be 19 pounds, which would not exceed SCAQMD's regional threshold (550 pounds per day) or LST (647 pounds per day) for carbon monoxide. Furthermore, the project would not require additional maintenance trips beyond those currently occurring to the site under existing SCWD operations and therefore would not generate additional carbon monoxide emissions beyond existing conditions. Both the SCAQMD's regional thresholds and LSTs are designed to be protective of public health. Based on the low background level of carbon monoxide in the project area, ever-improving vehicle emissions standards for new cars in accordance with State and federal regulations, and the project's lack of operational carbon monoxide emissions, the project would not create new carbon monoxide hotspots or contribute substantially to existing carbon monoxide hotspots. Therefore, the proposed project would not expose sensitive receptors to substantial carbon monoxide concentrations, and localized air quality impacts related to carbon monoxide hot spots would be less than significant.

Toxic Air Contaminants

TACs are defined by California law as air pollutants that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. The following subsections discuss the project's potential to result in impacts related to TAC emissions during construction and operation.

Construction

Construction-related activities would result in temporary project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, building construction, and other construction activities. DPM was identified as a TAC by CARB in 1998. The potential cancer risk from the inhalation of DPM (discussed in the following paragraphs) outweighs the potential non-cancer health impacts (CARB 2021) and is therefore the focus of this analysis.

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed project would occur over approximately eight months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of proposed construction activities (i.e., eight months) is approximately two percent of the total exposure period used for 30-year health risk calculations. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk (Bay Area Air Quality Management District 2017).

The maximum PM_{10} and $PM_{2.5}$ emissions would occur during demolition, site preparation and grading activities. These activities would last for approximately 43 days. Particulate matter emissions would decrease for the remaining construction period because construction activities such as tank installation and site restoration would require less intensive construction equipment. While the maximum DPM emissions associated with demolition, site preparation, and grading activities would only occur for a portion of the overall construction period, these activities represent the worst-case condition for the total construction period. This would represent less than one percent of the total 30-year exposure period for health risk calculation. Given the aforementioned discussion, project construction would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

Operation

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). SCAQMD adopted similar recommendations in its *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* (2005). Together, CARB and SCAQMD guidelines recommend siting distances both for the development of sensitive land uses in proximity to TAC sources and for the addition of new TAC sources in proximity to existing sensitive land uses. Water storage reservoirs are not a land use that generates substantial TAC emissions based on review of the air toxic sources listed in SCAQMD's and CARB's guidelines, and the project would not include equipment that would produce TAC emissions, such as

generators. Therefore, project operation would not expose sensitive receptors to substantial TAC emissions, and no impact would occur.

LESS THAN SIGNIFICANT IMPACT

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

The proposed project consists of the demolition of an existing reservoir, installation of two new reservoirs, and drainage, power supply, and access road improvements. The project would generate oil or diesel fuel odors during construction from equipment. The odors would be limited to the time that construction equipment is operating, would be temporary, and would dissipate rapidly with distance. In addition, project operation would not result in other emissions, such as those leading to odors, adversely affecting a substantial number of people. Accordingly, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and 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, or 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?	☐	☐	☐	■

The analysis presented in this section is based on the Biological Resources Assessment report prepared for the project, which is included in full as Appendix C. The Biological Resources Assessment included a review of available technical information regarding biological resources in the project vicinity. In order to obtain comprehensive information regarding the presence or potential presence of regulated biological resources (including special status species, sensitive communities, and jurisdictional waters and wetlands) in the vicinity of the project site, queries of the United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System: Information for Planning and Consultation system, USFWS Critical Habitat Portal, USFWS National Wetland Inventory (NWI), CDFW California Natural Diversity Database (CNDDB), CDFW Biogeographic Information and Observation System, and California Native Plant Society (CNPS) Online Inventory of Rare, Threatened and Endangered Plants of California were conducted (Appendix C).

A field reconnaissance survey was performed to document the existing conditions and to evaluate the potential for presence of regulated biological resources on site (Appendix C). The biological Study Area for the field survey included the project site and a 100-foot buffer around the project site. In addition, an Aquatic Resources Delineation, protocol-level coastal California gnatcatcher surveys, and a focused rare plant survey were conducted, all of which are included in full as attachments to Appendix C.

The approximately seven-acre biological Study Area, which includes the project site and a 100-foot buffer around the project site, is situated in a hilly wildland-urban interface above a residential neighborhood and is surrounded by open space and residential land uses. Elevations within the Study Area range from approximately 285 to 550 feet above mean sea level. The Study Area consists of several vegetation communities and land cover types, including big pod ceanothus chaparral (*Ceanothus megacarpus,* Shrubland Alliance), California buckwheat scrub (*Eriogonum fasciculatum,* Shrubland Alliance), fountain grass swards (*Pennisetum setaceum – Pennisetum ciliare,* Herbaceous Semi-Natural Alliance), upland mustards (*Brassica nigra,* Semi-Natural Herbaceous Alliance), and developed areas. The developed areas within the Study Area consist of residential buildings, compacted dirt access road, and the existing fenced Reservoir 2B facility (Appendix C).

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

Special status species are those plants and wildlife listed, proposed for listing, or candidates for listing as Threatened or Endangered by the USFWS under the federal Endangered Species Act; those listed or candidates for listing as Rare, Threatened, or Endangered by the CDFW under the California Endangered Species Act or Native Plant Protection Act; animals designated as “Fully Protected” by the California Fish and Game Code (CFGC); wildlife listed as Species of Special Concern by the CDFW; and plants with CNPS California Rare Plant Ranks of 1B, 2, 3, and 4. The potential for special status plant and wildlife species to occur at the project site was assessed based on a review of a five-mile search of the CNDDB and nine-quadrangle search of the CNPS database, which was automatically reduced to six quadrangles by the database to account for adjacent marine environments that are not relevant to the Study Area (Appendix C).

SPECIAL-STATUS PLANT SPECIES

Based on the six-quadrangle CNPS query, Rincon evaluated 42 special-status plant species tracked by the CNDDB and CNPS and evaluated those species occurrences to determine their potential to occur on the project site. The assessment is based upon the presence of suitable habitat as identified during the reconnaissance survey and existing knowledge of species occurrences and distributions in the region. Of the 42 species evaluated, four have a moderate potential to occur within the Study Area: intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*), decumbent goldenbush (*Isocoma menziesii* var*. decumbens*), Robinson's pepper-grass (*Lepidium virginicum* var*. robinsonii*), and big-leaved crownbeard (*Verbesina dissita*). During the reconnaissance survey in December 2021 and the focused rare plant survey in April 2022, only one special-status plant species, cliff spurge (*Euphorbia misera),* was detected within the Study Area. A small number of individuals of this species was observed alongside the existing access road; however, most of the population within the Study Area was observed further away from the road, both on the slope above the road and on the slope below the road. No cliff spurge individuals were observed within the road itself. This species has a CRPR rank of 2B.2, meaning cliff spurge is categorized by CNPS as Rare, Threatened, or Endangered in California but common elsewhere and is moderately threatened in California (20 percent to 80 percent of occurrences threatened / moderate degree of immediacy of threat). No other rare plants, including the four with moderate potential to occur within the Study Area, were observed during the field survey or the focused rare plant survey (Appendix C). Therefore, this analysis focuses on potential project impacts to cliff spurge.

Ground-disturbing activities during installation of the proposed access road and stormwater control improvements associated with the project may result in direct impacts (removal) to a small number of cliff spurge individuals located near the edges of the access road. Direct impacts could include crushing individuals from vehicle traffic, or direct removal of an individual during project site grading or stormwater improvement installation. However, the small number of cliff spurge individuals that may be removed would not constitute a significant impact to the cliff spurge population within the Study Area. Most of the cliff spurge individuals are located within habitat that is further away from the road, and these areas contain a higher habitat value than that found adjacent to the existing road. As a result, any direct impacts to this species would be less than significant because most of the cliff spurge population in the Study Area would be left intact. Indirect impacts could occur from fugitive dust or due to the spread of invasive, non-native species from construction equipment and landscaping. However, given that most of the cliff spurge population is located away from the existing access road, any indirect impacts would also be less than significant (Appendix C).

SPECIAL-STATUS WILDLIFE SPECIES AND NESTING BIRDS

Rincon evaluated 25 special-status wildlife species tracked by the CNDDB (within a five-mile radius of the Study Area) for their potential to occur. The assessment is based on the presence of suitable habitat as identified during the survey and existing knowledge of species occurrences and distributions in the region. Of the 25 species evaluated, three were determined to have a moderate potential to occur within the Study Area based on habitat suitability: southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), coastal California gnatcatcher (*Polioptila californica californica*). Coastal California gnatcatcher is federally listed as threatened and is a CDFW Species of Special Concern. Nine protocol-level surveys for coastal California gnatcatcher presence were conducted within the Study Area by approved permitted biologists (Appendix C). No coastal California gnatcatchers were visually observed or auditorily detected during the nine protocol level surveys.

Additionally, no signs of nesting were observed. Therefore, the Study Area is considered absent of coastal California gnatcatchers.

While project impacts would take place primarily within the existing fenced reservoir facility and along the unpaved access road, the Study Area surrounding these developed areas contains habitat for coastal cactus wren and southern California rufous-crowned sparrow, and it is possible they may briefly transit through the project site or adjacent areas when moving to and from different locations within the surrounding landscape. In addition, migratory or other common nesting birds, while not designated as special-status species, are protected by the CFGC and MBTA and may also nest on site in vegetation within the Study Area. Direct impacts could result if ground-disturbing activities directly affect coastal cactus wren, southern California rufous-crowned sparrow, or other nesting birds by destroying a nest. Indirect impacts from noise, vibrations, and dust from construction activities could occur if activities result in abandonment of an occupied roosting or nesting sites within or adjacent to the project site during the nesting season. Noise, vibrations, and dust can cause impacts by causing birds to flush out of cover and become exposed to predators or vehicle strikes. Noise, dust, and vibrations may also cause avian species to leave regular foraging areas within and adjacent to the project site. As a result, project construction activities could potentially directly or indirectly impact transient individuals of coastal cactus wren, southern California rufous-crowned sparrow, or other nesting bird species. Therefore, impacts to special status wildlife species would be potentially significant. Implementation of Mitigation Measure BIO-3 would be required to reduce potential impacts to coastal cactus wren, southern California rufous-crowned sparrow, and other nesting birds to a less-than-significant level and achieve compliance with CFGC 3503 and the MBTA through implementation of a pre-construction nesting bird survey if construction commences during the nesting bird season (typically February 1 to August 31) and establishment of avoidance buffers, as needed. Operation of the proposed project would be similar to existing conditions; thus, no additional noise impacts would occur during operation.

In the context of the larger landscape, coastal cactus wren, southern California rufous-crowned sparrow, or other nesting bird species are not restricted to the Study Area, and there is other suitable habitat adjacent to and surrounding the Study Area. Any project-related activities that result in loss of immediate local nesting opportunities or that create noise would have a limited impact to the immediate vicinity and would not impact the population of these special-status species' population as whole. Therefore, indirect impacts to these species would be less than significant.

Mitigation Measures

BIO-1 Nesting Birds

Project-related activities shall occur outside of the bird breeding season (February 1 to August 31) to the extent practicable. If construction must occur within the bird breeding season, then no more than ~~14~~ three days prior to initiation of ground disturbance and/or vegetation removal, a nesting bird pre-construction survey shall be conducted by a qualified biologist within the disturbance footprint plus a 300-foot buffer, where feasible. If the proposed project is phased or construction activities stop for more than two weeks during the bird breeding season, a subsequent pre-construction nesting bird survey shall be completed within three days prior to each phase of construction.

Pre-construction nesting bird surveys shall be conducted during the time of day when birds are active and shall factor in sufficient time to perform this survey adequately and completely. A report

of the nesting bird survey results, if applicable, shall be submitted to SCWD for review and approval prior to ground and/or vegetation disturbance activities.

If nests are found, their locations shall be flagged to facilitate avoidance. An appropriate avoidance buffer of ~~150~~ 100 feet for passerines, 300 feet for listed bird species, and 500 feet for raptors ~~and up to 300 feet for raptors, depending on the proposed work activity, shall be determined~~ shall be established by a qualified biologist and demarcated with bright orange construction fencing or other suitable flagging. Active nests shall be monitored at a minimum of once per week until it has been determined that the nest is no longer being used by either the young or adults. No ground disturbance shall occur within this buffer until the qualified biologist confirms the breeding/nesting is completed and all the young have fledged. If project activities must occur within the buffer, they shall be conducted at the discretion of the qualified biologist. If no nesting birds are observed during pre-construction survey, no further action would be necessary.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, including sensitive species, or are particularly susceptible to disturbance. The Study Area is situated in a hilly wildland-urban interface above a residential neighborhood and is bordered by open space and residential land uses. No riparian habitat or other sensitive vegetation community is present within the Study Area (Appendix C). Therefore, the proposed project would not have a substantial adverse effect on riparian habitat or other sensitive natural communities given that none exist on the site. No impact would occur.

NO IMPACT

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?

In accordance with Section 1602 of the CFGC, the CDFW has jurisdiction over lakes and streambeds (interpreted to include adjacent riparian resources). The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake. Under Section 404 of the Clean Water Act, the United States Army Corps of Engineers has authority to regulate activities that discharge dredge or fill material into wetlands or other “waters of the United States” through issuance of a Section 404 Permit. Finally, the RWQCB has jurisdiction over “waters of the state” pursuant to the Porter-Cologne Water Quality Control Act and has the responsibility for review of the project water quality certification per Section 401 of the federal Clean Water Act.

The Study Area is located within the approximately 152-square-mile Aliso Creek-Frontal Gulf of Santa Catalina Watershed (Hydrologic Unit Code 1807030103). Headwaters of Aliso Creek originate in the Cleveland National Forest, and the creek ultimately discharges into the Pacific Ocean at Aliso Beach. The NWI and National Hydrography Dataset do not identify any wetlands or waters within the Study Area (Appendix C).

One potentially jurisdictional feature consisting of an unnamed ephemeral drainage is located in the Study Area. The unnamed ephemeral drainage is potentially subject to RWQCB and CDFW jurisdiction because the drainage contains bed, bank, and channel features. The drainage conveys

sheet flows southwest from the Reservoir 2B location towards the unpaved access road and Ceanothus Drive. The second drainage feature observed in the Study Area was determined to be a non-jurisdictional swale due to a lack of a defined Ordinary High Water Mark, bed, bank, and channel. Neither drainage feature would be considered a significant watercourse as defined in the City's Local Coastal Program (LCP) because they do not serve a distinct functional scenic or ecological purpose. The features do not provide significant wildlife habitat, including feeding, watering, and breeding areas. Wildlife activity was low in the area during the Aquatic Resources Delineation field survey, and no evidence of nesting was observed. These features also do not serve scenic purposes, including density relief or general aesthetic appeal, due to their adjacency to dense residential development (Appendix C).

The unnamed ephemeral drainage contains 0.68 acre and 243 linear feet of potential non-wetland waters potentially subject to the jurisdiction of the RWQCB and CDFW within the Study Area. Approximately 0.01 acre and 36 linear feet of the drainage falls within the project site boundary (Appendix C).

The proposed project consists of the demolition of the existing Reservoir 2B and the construction of two new reservoirs, paving of the unpaved access road, installation of power supply improvements within the access road alignment, and installation of stormwater control improvements consisting of three culverts, one concrete v-ditch, and six energy dissipators and/or rip-rap hard surfaces to allow runoff to pass under and along the access road rather than across it. No wetlands or waters are present at the reservoir facility, and reservoir replacement would not affect these resources. Existing drainage patterns would be maintained by the proposed stormwater control improvements. While most of the road and stormwater improvements would occur outside jurisdictional waters, a small segment (approximately 0.01 acre and 36 linear feet) of the unnamed ephemeral drainage would be realigned away from the roadway and into the proposed concrete V-ditch. This drainage segment currently flows on and adjacent to the roadway, is unvegetated, and has minimal aquatic resource function. Because the proposed improvements would maintain the existing drainage patterns and eliminate the need for flows to cross the road surface during storms, the project would not adversely impact the function, scenic or ecological purpose of the watershed and existing drainages within the Study Area (MKN & Associates 2022) (Appendix C). Therefore, impacts to the potentially jurisdictional drainage would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

Wildlife corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as between foraging and denning areas, or they may be regional in nature, allowing movement across the landscape. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats in the linkage do not necessarily need to be the same as the habitats being linked. Rather, the linkage merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically, habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant

species. Depending upon the species using a corridor, specific physical resources (e.g., rock outcroppings, vernal pools, or oak trees) may need to be in the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

The Study Area is not situated within any documented wildlife corridors or habitat linkages (Spencer et. al 2010). The Study Area is bordered on the west side by residential development. The open space to the north and northeast of the Study Area is within the Aliso and Wood Canyons Wilderness Park, which connects to the Laguna Coast Wilderness Park and Crystal Cove State Park open space areas approximately five miles northwest of the Study Area. These open space areas contain habitat likely supporting local and regional wildlife movement. While the naturally vegetated portions of the Study Area connect to this open space, it is unlikely they contribute significantly to wildlife movement given their adjacency to existing residential development and transportation corridors. In addition, the developed Reservoir 2B site and unpaved access road within the Study Area offer little to no value to wildlife movement for similar reasons (Appendix C).

The proposed project would occur on an existing developed site and would not affect localized wildlife movement, create habitat fragmentation in the region, or have a significant impact on regional wildlife movement (Appendix C). As a result, direct impacts to wildlife movement as a result of project implementation would be less than significant. Construction activity would generate temporary noise in the project site vicinity due to the usage of heavy-duty diesel construction equipment, which may lead to alteration of feeding and breeding patterns. However, these impacts would be short-term, and as mentioned previously, the project site and immediately surrounding area offer little to no value to wildlife movement. Upon completion of construction, operational activities at the project site would be the same as under existing conditions (Appendix C). Therefore, indirect impacts to wildlife movement would also be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Open Space Areas

The project site is zoned as an open space area, as defined by the LBMC Chapter 25.41. Public utility facilities are not a permitted use in the Open Space/Conservation zone (LBMC Sections 25.41.004 and 25.41.006); however, per LBMC Section 25.56.018, any public utility use existing in any building or structure or on any premises at the time of the adoption of the zoning ordinance (i.e., 1994) shall be deemed to be a conforming use or a conforming structure in whatever district said use is conducted or whatever district said structure is located. The existing Reservoir 2B was constructed in 1946; therefore, the public utility use of the project site is a conforming use. Furthermore, although the project site is adjacent to open space land uses, the proposed project would occur primarily within the existing development footprint. In addition, the proposed stormwater control improvements would be installed within 10 feet of the existing access road with the exception of the culvert and energy dissipator immediately south of the reservoir location, which would be installed within 30 feet of the existing disturbed footprint of the reservoir location. These improvements would maintain existing drainage patterns and would not impact the function of the open space land surrounding the existing development footprint (Appendix C). Therefore, the

proposed project would not reduce or impact open space within or adjacent to the project site, and no conflict with local polices and ordinances would occur.

City of Laguna Beach General Plan and Local Coastal Program

The City's General Plan and LCP contain objectives and policies for biological resources relevant to the proposed project given its location and/or proposed activities (General Plan Policies 8-A through 8-D, and Policies 8-I and 8-J). These objectives and policies focus on conservation of existing natural areas; protection of sensitive habitat (including wildlife corridors); and protection of endangered species and heritage trees.

The proposed project proposes replacement of an existing reservoir and its appurtenant features with two new reservoirs within the current fenced limits of the reservoir facility as well as paving of the existing access road and installation of power supply and stormwater drainage improvements. In compliance with the objectives and policies outlined in the City's General Plan and LCP, the project would not significantly impact:

- Heritage trees because these resources are not present within the Study Area;
- Endangered or threatened species and habitat because project impacts would be limited to the existing development footprint, protocol-level surveys to detect coastal California gnatcatcher were negative, and implementation of Mitigation Measure BIO-1 would require nesting bird surveys to avoid potential impacts to special status wildlife species; or
- Wildlife movement and corridors because there are no documented wildlife corridors or linkages in the Study Area (Appendix C).

In addition, while the project would include the construction of two new reservoirs and roadway, drainage, and power supply improvements, the existing development area would not be expanded. Therefore, the project would not conflict with the Laguna Beach General Plan and LCP, and no impact would occur.

Environmentally Sensitive Areas

A small portion of the Study Area overlaps with habitat considered to be High Value and Very High Value by the City. The area to the east and north of the reservoir site is mapped as High Value Habitat, and the area north of the access road is mapped as Very High Value Habitat. The City defines High Value Habitat as areas dominated by native plant communities and that possess high species diversity. These areas are often, but not always, adjacent to large open space areas, or linked to open space areas via traversable open space corridors. Additionally, areas identified as High Value Habitat include locales of maritime desert scrub and ceanothus chaparral (*Ceanothus leucodermis)*, due to the locally unique character of these plant communities. The City defines Very High Value Habitat as habitats that include rare, endangered, or locally unique native plant species as well as areas of southern oak woodland and natural springs and seeps (Appendix C).

While the Study Area is adjacent to open space areas considered High Value and Very High Value Habitat, the portions of these habitats within the Study Area have been previously disturbed by construction of the existing Reservoir 2B and its access road. Additionally, while native plant communities occur throughout the Study Area, no rare plants were observed within the High Value or Very High Value portions of the Study Area (Appendix C).

The proposed project would be primarily limited to the existing developed portions of the Study Area. In addition, the proposed stormwater control improvements would be installed within 10 feet

of the existing access road with the exception of the culvert and energy dissipator immediately south of the reservoir location, which would be installed within 30 feet of the existing disturbed footprint of the reservoir location. These improvements would maintain existing drainage patterns and would not impact the function of the habitat surrounding the existing development footprint (Appendix C). Therefore, the project would not substantially encroach into environmentally sensitive areas, and impacts to these areas would be less than significant.

Protected Trees

No trees are present within the project footprint. The trees present within the Study Area are ornamental and consist of Eucalyptus trees and other non-native species not considered heritage trees under the LBMC Chapter 12.08 (Appendix C). Therefore, the project would not conflict with the City's tree ordinance, and no impact would occur.

LESS THAN SIGNIFICANT 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?

The project site is located in the Plan area of the Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan to which the City of Laguna Beach is not a signatory. Therefore, the project is not subject to an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan, and no impact would occur.

NO IMPACT

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5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	■
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	■	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

This section provides an analysis of the project's impacts on cultural resources, including historical and archaeological resources as well as human remains. CEQA requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC] Section 21084.1). A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript a lead agency determines to be historically significant (CEQA Guidelines Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a-b]). PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In 2017, PaleoWest conducted a cultural resources investigation of the reservoir location (Thomas and McCarthy-Reid 2017). In November 2020, Rincon prepared an environmental considerations and constraints analysis, including a cultural resources review, in support of the reservoir replacement component of the project (Rincon 2021a). This analysis included a cultural resources records search of the California Historical Resources Information System at the South Central Coastal Information Center (SCCIC), located at California State University, Fullerton, and a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search. In November 2021, Rincon also conducted a pedestrian survey of the footprint of the proposed drainage, power supply, and access road improvements and prepared a cultural resources assessment covering the entirety of the proposed project, which is included as Appendix D.

The SCCIC records search was performed to identify previously conducted cultural resources studies, as well as previously recorded cultural resources within the project site and a 0.5-mile radius surrounding it. The records search included a review of available records at the SCCIC, as well as the National Register of Historic Places, the CRHR, the Office of Historic Preservation Historic Properties Directory, the California Inventory of Historic Resources, the Archaeological Determinations of Eligibility list, and historical maps. The SCCIC records search identified 30 cultural resources studies conducted within a 0.5-mile radius of the project site, three of which evaluated portions of the project site. The SCCIC search identified 11 previously recorded cultural resources within a 0.5-mile radius of the project site, none of which are recorded within the project site.

In response to the SLF search request for the project site, the NAHC emailed a response on October 19, 2020, stating the SLF search was positive. An SLF search is completed by topographic quadrangle, and a positive SLF result is returned if any sacred sites are identified within the mapping quadrangle within which a project site is located. However, no specific locational information is provided. Upon receipt of the SLF search results, Rincon sent emails to the Juaneño Band of Mission Indians and the Juaneño Band of Mission Indians Acjachemen Nation – Belardes on November 6, 2020, requesting information regarding the positive SLF results. No response was received from the Juaneño Band of Mission Indians. On November 11, 2020, Joyce Perry, Tribal Administrator for the Juaneño Band of Mission Indians Acjachemen Nation – Belardes responded stating that the Laguna Beach/Laguna Niguel area is highly culturally sensitive to the Tribe and requested additional information regarding the scope of the project, extent of ground disturbance, and SCCIC results. On November 12, 2020, Rincon sent the SCCIC results via email to Ms. Perry. On December 2, 2020, Ms. Perry sent a follow-up response stating the Aliso Creek, Laguna Beach, and Laguna Niguel areas comprise major ancestral sites and burials located within the project area and 0.5-mile radius. Ms. Perry advised that any ground-disturbing activities should be approached cautiously and requested preparation of an environmental impact study that includes considerations for tribal cultural resources with an emphasis on avoidance. Ms. Perry also recommended the inclusion of Native American monitoring as a condition of approval. Ms. Perry asked that a representative from the Juaneño Band of Mission Indians, Acjachemen Nation- Belardes be included in all monitoring activities. No further correspondence was conducted.

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

The background research and pedestrian field survey identified one historic-period cultural resource - the existing Reservoir 2B - within the project site. Reservoir 2B was constructed in 1946 and is thus 75 years of age. However, PaleoWest completed a historic resources evaluation of Reservoir 2B in 2017 and determined that the reservoir does not meet the criteria for listing as a historical resource under CEQA. Rincon concurs with the recommendation presented by PaleoWest and has not found any information suggesting that Reservoir 2B may be eligible for listing as a historical resource. As such, Reservoir 2B is not considered a historical resource pursuant to CEQA (Appendix D). Therefore, no impact to historical resources would occur.

NO IMPACT

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

PaleoWest conducted a pedestrian survey of the Reservoir 2B location in 2017, and Rincon conducted a pedestrian survey of the footprint of the proposed drainage, power supply, and access road improvements in November 2021. The pedestrian survey consisted of a series of transects spaced no more than 15 meters apart across the access road portions of the project site. Areas of exposed ground were inspected for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features that indicate the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramics). Ground disturbances such as burrows were also visually inspected. Ground visibility within the project site was excellent at approximately 100 percent. No archaeological resources were identified during the pedestrian survey.

Although the SLF search was returned with positive results, no prehistoric resources were identified within the project site, and no cultural resources were identified during the pedestrian survey. Given the negative results of this study, the project site is considered to have low archaeological sensitivity. However, the project site vicinity is considered sensitive for Native American Tribal Cultural Resources, as identified by Ms. Perry of the Juaneño Band of Mission Indians, Acjachemen Nation- Belardes in response to Rincon's outreach efforts, and it is possible that unanticipated archaeological deposits and/or human remains could be encountered and damaged during the ground-disturbing activities associated with construction (such as grading and excavation), especially if those activities occur in less-disturbed buried sediments. Consequently, impacts would be potentially significant. Implementation of Mitigation Measure CR-1 would be required in the unlikely event archaeological resources are encountered during ground-disturbing activities to reduce impacts to archaeological resources to a less-than-significant level.

Mitigation Measure

CR-1 Unanticipated Discovery of Cultural Resources

In the unlikely event archaeological resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area shall be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the find is prehistoric, a Native American representative shall be contacted to participate in the evaluation of the find. If necessary,

the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be eligible for listing in the CRHR and cannot be avoided, additional work, such as testing and data recovery excavations, may be warranted to mitigate any significant impacts to cultural resources to a less-than-significant level.

Significance after Mitigation

Implementation of Mitigation Measure CR-1 would require implementation of avoidance measures for and evaluation of any unanticipated discoveries of cultural resources, which would reduce potential impacts to archeological resources to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The cultural resources records search did not identify cemeteries or archaeological resources containing human remains within the site. However, the project site vicinity is sensitive for Native American resources and burials, as identified by Ms. Perry of the Juaneño Band of Mission Indians, Acjachemen Nation- Belardes in response to Rincon's outreach efforts, and the discovery of human remains is always a possibility during ground disturbances, as would be required for the proposed project. Human burials outside of formal cemeteries often occur in prehistoric archaeological contexts. In addition to being potential archaeological resources, human burials have specific provisions for treatment in PRC Section 5097. Additionally, California Health and Safety Code Sections 7050.5, 7051, and 7054 contain specific provisions for the protection of human burial remains. Existing regulations address the illegality of interfering with human burial remains and protects them from disturbance, vandalism, or destruction. PRC Section 5097.98 also addresses the disposition of Native American burials, protects such remains and establishes the NAHC as the entity to resolve any related disputes.

If human remains are found, the California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of being granted access to the site and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Compliance with PRC Section 5097.98 and State of California Health and Safety Code Section 7050.5 would ensure impacts to human remains are less than significant.

LESS THAN SIGNIFICANT IMPACT

6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a 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?	☐	☐	☐	■

As a state, California is one of the lowest per capita energy users in the United States, ranked 50th in the nation, due to its energy efficiency programs and mild climate (United States Energy Information Administration 2021). Electricity and natural gas are primarily consumed by the built environment for lighting, appliances, heating and cooling systems, fireplaces, and other uses such as industrial processes in addition to being consumed by alternative fuel vehicles. Energy resources consumed by project activities would be limited to petroleum fuels. Petroleum fuels are primarily consumed by on-road and off-road equipment in addition to some industrial processes, with California being one of the top petroleum-producing states in the nation (California Energy Commission [CEC] 2021a). Gasoline, which is used by light-duty cars, pickup trucks, and sport utility vehicles, is the most used transportation fuel in California with 12.6 billion gallons sold in 2020 (CEC 2021b). Diesel, which is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles, is the second most used fuel in California with 1.7 billion gallons sold in 2021 (CEC 2021b). Energy consumption is directly related to environmental quality in that the consumption of nonrenewable energy resources releases criteria air pollutant and greenhouse gas (GHG) emissions into the atmosphere. The environmental impacts of air pollutant and GHG emissions associated with the project's energy consumption are discussed in detail in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, respectively.

a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Construction Energy Consumption

Energy use during project construction would be primarily in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators. Temporary grid power may also be provided to construction trailers or electric construction equipment. Table 5 summarizes the anticipated energy consumption from construction equipment and vehicles, including construction worker trips to and from the project site. As shown therein, project

construction would require approximately 1,731 gallons of gasoline fuel and approximately 20,122 gallons of diesel fuel.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. Furthermore, in the interest of cost efficiency, construction contractors would not utilize fuel in a manner that is wasteful or unnecessary. Therefore, project construction would not result in a potential impact due to wasteful, inefficient, or unnecessary consumption of energy resources, and no construction-related energy impact would occur.

Table 5 Energy Use during Project Construction

	Fuel Consumption (Gallons)	
Source	**Gasoline**	**Diesel**
Construction Equipment & Hauling Trips	–	20,122
Construction Worker Vehicle Trips	1,731	–

See Appendix B for CalEEMod outputs and Appendix E for energy calculation sheets.

Operational Energy Consumption

As described under *Description of Project*, the project would not require additional maintenance trips beyond those currently occurring to the site under existing SCWD operations and would not require an increase in electricity usage for pumping water. Therefore, no increase in operational energy consumption would occur. As a result, project operation would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resource, and no impact would occur.

NO IMPACT

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

SCWD has not adopted specific renewable energy or energy efficiency plans with which the project could comply. No impact would occur.

NO IMPACT

7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. 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?	☐	☐	■	☐
2. Strong seismic ground shaking?	☐	☐	■	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
4. Landslides?	☐	☐	■	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	■	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	■
e. Have soils incapable of adequately supporting the use of septic tanks or alternative 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 geologic feature?	☐	■	☐	☐

Overview of Geologic Setting

The project site is situated within the northern Peninsular Ranges geomorphic province, one of 11 major provinces in the state (California Geological Survey [CGS] 2002). These provinces are "naturally defined geologic regions that display a distinct landscape or landform" (CGS 2002). The Peninsular Ranges trend northwest-southeast and extend 900 miles from the Los Angeles Basin to the tip of Baja California in Mexico. The province varies from 30 to 100 miles wide and is bounded on the east by the Colorado Desert and on the west by the coastal plain and the Gulf of California (Norris and Webb 1990). The project site is underlain by a single mapped geologic unit: Miocene San Onofre Breccia (Tsob) (Morton and Miller 2006). Miocene San Onofre Breccia consists of marine sedimentary breccia, conglomerate, and lithic sandstone. The geologic unit is characterized by clasts of blueschist and related rocks derived from Catalina Schist. Locally, diatomaceous shale and tuff beds may be interbedded with the Miocene San Onofre Breccia.

According to the CGS, the project site is not located in an Alquist-Priolo Fault Zone or a liquefaction zone. There are no faults present on the project site, and the closest fault to the project site is the North Branch Fault located approximately 17.1 miles to the north (CGS 2016; United States Geological Survey 2019a). However, the project site is located in the San Juan Capistrano designated earthquake-induced landslide hazard zone (CGS 2016). Topography at the project site exhibits an approximately 34 percent slope from an elevation of approximately 285 feet at Ceanothus Drive to approximately 550 feet at the existing reservoir location. The reservoir location itself is relatively flat.

Ninyo and Moore prepared a Geotechnical Evaluation for the project site in January 2022, which included a desktop review of the previous technical memorandum, site reconnaissance, subsurface exploration, and laboratory testing. The project site and surrounding area contain three primary mapped soil units: artificial fill (Qaf), slopewash (Qsw) and Bedrock-San Onofre Breccia (Tsob). Artificial fill was observed adjacent to the descending slope of the reservoir pad and the access road via Ceanothus Drive. The fill material is likely derived from San Onofre Breccia and consisted of silty sand with gravel and cobbles. Ninyo and Moore determined fills approximately 20 feet in thickness are anticipated at the reservoir location to the southwest edge of the reservoir pad. Slopewash was observed on the slopes and drainage gullies adjacent to the site and within one boring at a depth between approximately 14 to 16 feet. The slopewash generally consists of silty sand with gravel and cobbles, and it is anticipated the layer of slopewash is relatively thin with thicker accumulations occurring in drainage swales. Bedrock materials of San Onofre Breccia were observed in two borings and is exposed in road cuts and other cut slopes beneath the relatively thin mantle of slopewash. The San Onofre Breccia consisted of moderately hard to hard, well-cemented, massive to thickly bedded, fine- to coarse-grained sandstone, sandstone with angular gravel (breccia), and conglomerate (breccia). The bedrock was observed to be intensely weathered near the contact with the overlying slopewash and became less weathered and harder with depth (Ninyo and Moore 2022).

Overview of Paleontological Sensitivity

Rincon evaluated the paleontological sensitivities of the geologic units underlying the project site using the results of an online paleontological locality search and review of existing information in the scientific literature concerning known fossils within geologic units mapped within the project site. Fossil collections records from the Paleobiology Database and University of California Museum of Paleontology online database were reviewed for known fossil localities in Orange County (Paleobiology Database 2021; University of California Museum of Paleontology 2021). In addition, a

request for a list of known fossil localities from the project site and immediate vicinity (i.e., localities recorded on the United States Geological Survey *San Juan Capistrano*, 7.5-minute topographic quadrangle) was submitted to the Natural History Museum of Los Angeles County (NHMLAC). Based on the NHMLAC records search and available information contained within existing scientific literature and the University of California Museum of Paleontology database, paleontological sensitivities were assigned to the geologic units underlying the project site. The potential for impacts to scientifically important paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units. The Society of Vertebrate Paleontology (SVP) has developed a system for assessing paleontological sensitivity and describes sedimentary rock units as having high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources (SVP 2010). This system is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present.

A search of the paleontological locality records at the NHMLAC did not identify previously recorded fossil localities in the project site; however, the NHMLAC reports two invertebrate localities near the project site from San Onofre Breccia. LACMIP 6997 yielded unspecified fossilized invertebrates approximately four miles northwest of the project site near the Laguna Ridge Trail in Laguna Hills. LACMIP 24377 also produced unspecified invertebrates approximately four miles southeast from the project site near Dana Point. A supplemental review of the museum records maintained in the UCMP online collections database did not yield records of any vertebrate fossil localities from the Miocene San Onofre Breccia in the immediate vicinity of the project site. Based on the lithology and NHMLAC records search results, intact (native) deposits of Miocene San Onofre Breccia are assigned a high paleontological sensitivity.

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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?

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

The project site is located in a seismically-active area of southern California; however, the project site is not located in an Alquist-Priolo Earthquake Fault Zone or liquefaction zone (CGS 2016). Therefore, the project would not directly or indirectly cause potential adverse effects related to rupture of a known earthquake fault or liquefaction. Impacts related to fault rupture and liquefaction would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The proposed project would involve the replacement of an existing reservoir with two new reservoirs on the project site as well as drainage, power supply, and access road improvements. As outlined in the Geotechnical Evaluation, design and construction of the proposed project would conform to the current seismic design provisions of the California Building Code (CBC; Ninyo and Moore 2022). The 2019 CBC incorporates the latest seismic design standards for structural loads and materials, as well as provisions from the National Earthquake Hazards Reduction Program, to mitigate losses from an earthquake and provide for the latest in earthquake safety. While the

project would be susceptible to seismic activity given its location within a seismically-active area, the project would be required to minimize this risk, to the extent feasible, through the incorporation of applicable CBC standards. A large seismic event, such as a fault rupture, seismic shaking, or ground failure, could result in damage to the proposed reservoirs and appurtenant structures. In the event an earthquake compromised the reservoirs during operation, SCWD would temporarily shut-off the water supply and conduct emergency repairs as soon as possible. Therefore, the project would not expose people or structures to potential substantial adverse effects involving strong seismic ground shaking. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site is located in an earthquake-induced landslide hazard zone (CGS 2016). The project does not include habitable structures and would therefore not expose people to loss, injury, or death involving landslides. The geotechnical reconnaissance survey conducted for the geotechnical report prepared for the proposed project did not reveal any evidence of significant slope instability, such as existing landslides, scarps, or tension cracks (Ninyo and Moore 2022). Additionally, implementation of the project would not exacerbate the existing risk of earthquake-induced landslides in the immediate vicinity because the project would not directly result in a seismic event or destabilize soils prone to landslide. In the event an earthquake compromised any project component due to landslides during operation, SCWD would temporarily shut-off the water supply and conduct emergency repairs as soon as possible. Therefore, because the project would not introduce new infrastructure to the site that would exacerbate landslide hazards, the proposed project would not directly or indirectly cause potential adverse effects involving earthquake-induced landslides. Impacts related to landslides would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site is located in an area with steep slopes that would increase the potential for soil erosion. The project site has been previously disturbed; however, construction activities involving soil disturbance, such as excavation, stockpiling, and grading, could result in increased erosion and sediment transport by stormwater and wind to surface waters. Because the project would disturb more than one acre, construction activities would be subject to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit, which requires visual monitoring of stormwater and non-stormwater discharges, sampling, analysis, and monitoring of non-visible pollutants, and compliance with all applicable water quality standards established for receiving waters potentially affected by construction discharges. Furthermore, the Construction General Permit requires implementation of a Stormwater Pollution Prevention Plan (SWPPP) that outlines project-specific best management practices (BMPs) to control erosion. Such BMPs may include but would not be limited to the use of temporary de-silting basins, construction vehicle maintenance in staging areas to avoid leaks, and installation of silt fences and erosion control blankets. The construction SWPPP and BMPs would be designed to prevent sedimentation of both on-site and off-site surface waters from construction activities. Therefore, project construction would not result in substantial erosion or loss of topsoil, and impacts would be less than significant.

Upon completion of the proposed project, the new reservoirs would not include components that would result in ongoing erosion or loss of topsoil. Furthermore, the proposed drainage

improvements are intended to convey existing runoff more efficiently from the project site to Ceanothus Drive and reduce the amount of erosion and siltation that occurs under existing conditions due to sheet flow across the project site. Therefore, project operation would not result in substantial erosion or loss of topsoil, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

The proposed project involves the replacement of Reservoir 2B with two new reservoirs. As discussed previously, although the proposed project would be located in a seismically active area, the project is not anticipated to adversely affect soil stability or increase the potential for local or regional landslides, subsidence, liquefaction, or collapse. The geotechnical reconnaissance survey conducted for the geotechnical report prepared for the proposed project revealed that the project site is situated on relatively strong, well-cemented sandstone, conglomerate, and breccia. Furthermore, due to the shallow depth of bedrock, it is unlikely that liquefaction would occur within the project site. Additionally, the slope stability analysis performed for the project site confirms slopes adjacent to the project site would have adequate factors of safety under static and seismic shaking conditions (Ninyo and Moore 2022). Therefore, the project would not exacerbate hazards related to unstable soil and would not result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site is located in the Hillside Canyons and High Terrace Lands in Laguna Beach (City of Laguna Beach 2012). The project site and surrounding area contains three primary mapped soil units: artificial fill (Qaf), slopewash (Qsw), and bedrock-San Onofre Breccia (Tsob). The artificial fill material generally consisted of silty sand with gravel and cobbles. Of these, artificial fill and bedrock-San Onofre Breccia underlie the project site itself where proposed project components would be located (Ninyo and Moore 2022). These types of earth materials consist of rock, sand, gravel, and cobbles, which are not the types of clay materials that create expansive soil conditions. Therefore, the project would not introduce risk to life or property as a result of expansive soils. No impact would occur.

NO IMPACT

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?

The proposed project would not include the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

NO IMPACT

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

The project site is in an urbanized area and has been previously developed. Given the nature of the proposed project and existing site conditions, project-related ground disturbance (i.e., excavations) would occur mainly within previously disturbed areas. However, some excavations would occur in previously undisturbed areas along the northwest slopes of the reservoir location, which would have the potential to impact fossiliferous deposits because the project site is underlain by geologic units with a high paleontological sensitivity. Construction activities such as grading, excavation, drilling, or any other activity that disturbs the surface or subsurface geologic formations may result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data if they are present. Therefore, impacts to paleontological resources would be potentially significant. Implementation of Mitigation Measures GEO-1 and GEO-2 would be required to reduce impacts to paleontological resources to a less-than-significant level.

Mitigation Measures

GEO-1 Paleontological Worker Environmental Awareness Program

Prior to the start of construction, a Qualified Professional Paleontologist, defined as a paleontologist who meets the Society of Vertebrate Paleontology (SVP) standards, or his or her designee shall conduct a paleontological Worker Environmental Awareness Program training for all construction personnel participating in subsurface excavation regarding unanticipated discoveries and the procedures for notifying paleontological staff should fossils be discovered by construction staff. A training acknowledgment form shall be signed by all workers who receive the training and retained by SCWD.

GEO-2 Unanticipated Discovery of Paleontological Resources

In the event a fossil is discovered during construction of the project, excavations within 50 feet of the find shall be temporarily halted or delayed until the discovery is examined by the Qualified Professional Paleontologist in accordance with SVP standards. SCWD shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. If the find is determined to be significant, the Qualified Professional Paleontologist shall direct all mitigation measures related to paleontological resources and shall design and carry out a data recovery plan consistent with the SVP (2010) standards.

Significance after Mitigation

Implementation of Mitigation Measures GEO-1 and GEO-2 would require implementation of a paleontological Worker Environmental Awareness Program training and avoidance measures for and evaluation of any unanticipated discoveries of paleontological resources, which would reduce potential impacts to paleontological resources to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

8 Greenhouse Gas Emissions

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

Overview of Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of GHG emissions contributing to the "greenhouse effect," a natural occurrence which takes place in Earth's atmosphere and helps regulate the temperature of the planet. The majority of radiation from the sun hits Earth's surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions.

GHG emissions occur both naturally and as a result of human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than CO_2 on a molecule per molecule basis (Intergovernmental Panel on Climate Change [IPCC] 2021).[1]

In its Sixth Assessment Report (2021), the United Nations IPCC expressed that the rise and continued growth of atmospheric CO_2 concentrations is unequivocally due to human activities. Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that a total of 2,390 gigatonnes of

[1] The Intergovernmental Panel on Climate Change's (2021) *Sixth Assessment Report* determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change's (2007) *Fourth Assessment Report*. Therefore, this analysis utilizes a GWP of 25.

anthropogenic CO_2 was emitted between the period of 1850 and 2019. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019 (IPCC 2021). Furthermore, since the late 1700s, estimated concentrations of CO_2, methane, and nitrous oxide in the atmosphere have increased by over 43 percent, 156 percent, and 17 percent, respectively, primarily due to human activity (United States Environmental Protection Agency 2021d). Emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature. Potential climate change impacts in California may include loss of snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (State of California 2018).

Regulatory Framework

In response to climate change, California implemented Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006." AB 32 required the reduction of statewide GHG emissions to 1990 emissions levels (essentially a 15 percent reduction below 2005 emission levels) by 2020 and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. On September 8, 2016, the Governor signed Senate Bill 32 into law, extending AB 32 by requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program and the Low Carbon Fuel Standard, and implementation of recently adopted policies and legislation, such as Senate Bill 1383 (aimed at reducing short-lived climate pollutants including methane, hydrofluorocarbon gases, and anthropogenic black carbon) and Senate Bill 100. The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) of CO_2e by 2030 and two MT of CO_2e by 2050 (CARB 2017).

Significance Thresholds

The CEQA Guidelines provide regulatory direction for the analysis and mitigation of GHG emissions appearing in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. In guidance provided by the SCAQMD's GHG CEQA Significance Threshold Working Group in September 2010, SCAQMD considered a tiered approach to determine the significance of land use projects for which SCAQMD is not the lead agency. The draft tiered approach is outlined in meeting minutes dated September 29, 2010 (SCAQMD 2010).

- **Tier 1.** If the project is exempt from further environmental analysis under existing statutory or categorical exemptions, there is a presumption of less than significant impacts with respect to climate change. If not, then the Tier 2 threshold should be considered.
- **Tier 2.** Consists of determining whether or not the project is consistent with a GHG reduction plan that may be part of a local general plan, for example. The concept embodied in this tier is equivalent to the existing concept of consistency in CEQA Guidelines Section 15064(h)(3), 15125(d) or 15152(a). Under this tier, if the proposed project is consistent with the qualifying

local GHG reduction plan, it would not result in significant GHG emissions. If there is not an adopted plan, then a Tier 3 approach would be appropriate.

- **Tier 3.** Establishes a screening significance threshold level to determine significance. The Working Group has provided a recommendation of 3,000 MT of CO_2e per year for land use projects for which SCAQMD is not the lead agency.
- **Tier 4.** Establishes a service population threshold to determine significance. The Working Group has provided a recommendation of 4.8 MT of CO_2e per year for land use projects.

The proposed project is not exempt from CEQA analysis; therefore, Tier 1 is not applicable. In addition, SCWD has not adopted a plan for the reduction of GHG emissions; therefore, Tier 2 is not applicable. Because SCWD does not have a "qualified" GHG reduction plan, this analysis relies on SCAQMD's Tier 3 screening significance threshold of 3,000 MT of CO_2e per year to evaluate the project's GHG emissions.

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

Construction of the proposed project would generate temporary GHG emissions primarily as a result of operation of construction equipment on site as well as from vehicles transporting construction workers to and from the project site and heavy trucks to transport materials, demolition debris, and soil export and import. Construction emissions are confined to a relatively short period of time in relation to the overall life of the proposed project because the total construction period would only last approximately nine months. The SCAQMD recommends amortizing construction-related emissions over a 30-year period in conjunction with a project's operational emissions (SCAQMD 2008b). In accordance with the SCAQMD's recommendation, GHG emissions from project construction were amortized over a 30-year period, then compared to the threshold of significance. As shown in Table 6, construction activities would generate approximately 201 MT of CO_2e, which is approximately 7 MT of CO_2e per year when amortized over a 30-year period. Therefore, emissions would not exceed the threshold of 3,000 MT of CO_2e per year, and project construction would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Impacts would be less than significant.

Table 6 Estimated Construction GHG Emissions

Year	Project Emissions (MT of CO_2e/year)
Total	201
Total Amortized over 30 Years	7
Threshold	3,000
Threshold Exceeded?	No

MT= metric tons, CO2e = carbon dioxide equivalents
See Appendix B for CalEEMod outputs.

Operational Emissions

As described under *Description of Project*, the project would not require additional maintenance trips beyond those currently occurring to the site under existing SCWD operations and would not

require an increase in electricity usage for pumping water. Therefore, no increase in operational GHG emissions would occur. As a result, project operation would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resource, and no impact would occur.

LESS THAN SIGNIFICANT IMPACT

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

As discussed above, SCWD does not have a GHG reduction plan; therefore, there are no local GHG reduction plans that would apply to the proposed project. The project would be consistent with the 2017 Scoping Plan because it would not result in additional water consumption compared to existing conditions. Furthermore, the project is intended to improve water storage capacity for firefighting efforts, such that fires could be extinguished more quickly and efficiently than existing conditions. By facilitating more efficient firefighting efforts, the combustion of carbon-sequestering vegetation during local wildfire events would be minimized, thereby reducing the amount of GHG emission produced during wildfires. Therefore, the project would be consistent with the 2017 Scoping Plan and would not conflict with any other applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. No impact would occur.

NO IMPACT

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	☐	■
d. Be located on a site that is included on a list of hazardous material 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 in 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?	☐	☐	■	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	■	☐	☐

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

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?

Construction of the proposed project would temporarily increase the transport and use of hazardous materials during the use of construction vehicles and equipment. Construction activities could cause an upset or accident condition. If such conditions result in a release of hazardous materials into the environment, potential impacts could occur. Limited quantities of miscellaneous hazardous substances, such as diesel fuel, oil, solvents, painting/coating systems and other similar materials, would be brought onto the project site, used, and stored during the construction period. These materials would be disposed off-site in accordance with applicable laws pertaining to the handling and disposal of hazardous waste. The transport, use, and storage of hazardous materials during construction would be conducted in accordance with applicable federal and State laws, such as the Hazardous Materials Transportation Act, California Hazardous Material Management Act, and California Code of Regulations, Title 22. As such, construction-related impacts related to reasonably foreseeable upset and accident conditions would be less than significant.

Upon completion of construction, operational activities at the project site would be the same as under existing conditions. The existing Reservoir 2B does not store hazardous materials. As such, operation of the proposed project would not introduce 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. No operational impacts would occur.

LESS THAN SIGNIFICANT IMPACT

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The closest school to the project site is Aliso School located at 21544 Wesley Drive, approximately 0.6 mile northwest of the project site. Therefore, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. No impact would occur.

NO IMPACT

d. Would the project be located on a site that is included on a list of hazardous material 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?

Government Code Section 65962.5 requires the California Environmental Protection Agency to develop an updated Cortese List. The California Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. The analysis for this section included a review of the following resources on December 3, 2021 to provide hazardous material release information:

- SWRCB GeoTracker database
- DTSC EnviroStor database

There are no known active hazardous materials sites located within the project site or a 0.25-mile radius. Therefore, the project is not located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. No impact would occur.

NO IMPACT

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

The closest airport to the project site is John Wayne Airport, located approximately 13.3 miles northwest of the project site, and the project site is not within an airport land use plan. Given the distance of the airport from the project site, the project would not result in an impact to safety hazards for people residing or working in the project area due to proximity to an airport or airstrip. No impact would occur.

NO IMPACT

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

The City of Laguna Beach has an Emergency Operations Plan (EOP) that includes emergency preparedness guidance for emergency service providers, City staff, and elected officials. The EOP focuses on identifying life safety measures, restoring businesses and community services after the occurrence of a disaster, and implementing procedures for cost recovery efforts. Although the minimal number of heavy trucks associated with project construction could result in occasionally slow-downs in vehicular traffic on local roadways, construction activities and staging would occur within the boundaries of the project site and would not require lane or road closures that could impair emergency access and evacuation. Therefore, impacts related to emergency response and emergency evacuation plans during project construction would be less than significant.

Upon completion of construction, operational activities at the project site would be the same as under existing conditions. Operation and maintenance activities occur within the boundaries of the project site and would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No impacts would occur.

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

According to the California Department of Forestry and Fire Protection (CAL FIRE), the project site is within a Very High Fire Hazard Severity Zone (VHFHSZ) in the Local Responsibility Area (CAL FIRE 2007). During construction activities, the use of spark-producing construction machinery within or adjacent to areas of moderate and high fire hazard and installation of electrical equipment could potentially create hazardous fire conditions and expose construction workers and nearby residents to wildfire risks. For the installation of the proposed power supply equipment, all SDG&E employees, contractors and consultants would be required to abide by the Electric Standard Practice, which includes a risk assessment matrix and mandatory fire prevention measures to be followed during construction activities, according to SDG&E's (2022) *Operations and Maintenance Wildland Fire Prevention Plan*. Nevertheless, construction activities not related to the installation of SDG&E power supply equipment would still have the potential to result in potentially significant impacts related to wildland fires. Mitigation Measure HAZ-1 would be required to minimize the potential for construction practices to result in wildland fires, thereby reducing impacts to a less-than-significant level.

The proposed project would include the replacement of Reservoir 2B with two new, steel welded reservoirs, which would not be flammable. Based on conversations with James Brown, Fire Marshal, of the Laguna Beach Fire Department, there would be no fuel modification requirements for the design and installation of these new reservoirs because the structures are non-flammable steel reservoirs containing water and California Government Code Section 51183 exempts structures that are entirely of non-combustible construction with entirely non-combustible contents from compliance with Section 51182 requirements for fuel modification (Brown 2021). The proposed project would also include new power supply equipment, including an underground electrical service feeder and aboveground meter pedestal and transformer, which would have the potential to increase the risk of wildland fires during project operation. However, SDG&E implements numerous fire safety measures in order to protect people and property from utility-related wildfires. SDG&E's Service Standards & Guide provides several operating procedures for electrical equipment to reduce risk of fire, including standards for the installation and handling of meters and related electrical equipment (SDG&E 2020). Furthermore, aboveground electrical equipment would be located inside nonflammable metal structures, which would reduce the potential for accidental sparks to ignite nearby vegetation. Therefore, project operation would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires, and impacts would be less than significant.

Mitigation Measure

HAZ-1 Prevention of Fire Hazards

During construction of the project, staging areas, welding areas, and areas designated for construction shall be cleared of dried vegetation and other materials that could ignite. Construction equipment with spark arrestors shall be maintained in good working order. In addition, construction crews shall have a spotter during welding and electrical installation activities to minimize potentially dangerous situations, such as accidental sparks. Other construction equipment, including those with hot vehicle catalytic converters, shall be kept in good working order and used only within cleared construction areas. During construction of the project, contractors shall require vehicles and crews to have access to functional fire extinguishers.

Significance after Mitigation

Implementation of Mitigation Measure HAZ-1 would require application of safety measures and procedures to minimize fire risk during project construction activities, which would reduce potential impacts from wildland fires to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	■	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	■
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	■	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or 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) Impede or redirect flood flows?	☐	☐	☐	■
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	■

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	■	☐

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

The federal Clean Water Act establishes the framework for regulating discharges to waters of the U.S. in order to protect their beneficial uses. The Porter-Cologne Water Quality Act (Division 7 of the California Water Code) regulates water quality within California and establishes the authority of the SWRCB and the nine Regional Water Quality Control Boards. The Regional and State Boards issue NPDES permits to regulate specific water discharges, including a Construction General Permit for projects that disturb more than one acre. As discussed in Section 4, *Biological Resources*, approximately 0.68 acre and 243 linear feet of potential non-wetland waters potentially subject to the jurisdiction of the RWQCB is located within the Study Area (the project site plus a 100-foot buffer), and approximately 0.01 acre and 36 linear feet falls within the project site boundary.

Grading, excavation, and other construction activities associated with the project could adversely affect water quality due to erosion resulting from exposed soils and the generation of water pollutants, including trash, construction materials, and equipment fluids. Soil disturbance associated with site preparation and grading activities would result in looser, exposed soils, which are more susceptible to erosion. Additionally, spills, leakage, or improper handling and storage of substances such as oils, fuels, chemicals, metals, and other substances from vehicles, equipment, and materials used during project construction could contribute to stormwater pollutants or leach to underlying groundwater.

Because the project would disturb more than one acre, construction activities would be subject to the NPDES Construction General Permit, which requires visual monitoring of stormwater and non-stormwater discharges, sampling, analysis, and monitoring of non-visible pollutants, and compliance with all applicable water quality standards established for receiving waters potentially affected by construction discharges. Furthermore, the Construction General Permit requires implementation of a SWPPP that outlines project-specific BMPs to control erosion. Such BMPs may include but would not be limited to the use of temporary de-silting basins, construction vehicle maintenance in staging areas to avoid leaks, and installation of silt fences and erosion control blankets. The construction SWPPP and BMPs would be designed to prevent sedimentation of both on-site and off-site surface waters from construction activities; prevent leaking of pollutants such as oil, grease, and chemicals; and implement spill control and response measures in the case of accidental releases. Therefore, project construction would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality, and impacts would be less than significant.

Construction of the proposed project would increase impervious surfaces at the project site through the addition of two new reservoirs to replace the existing reservoir and through pavement of the access road. However, according to the hydrology report prepared for the project by MKN &

Associates (2022), the infiltration rate of the existing site and the proposed asphalt surfaces is approximately the same because the existing project site and roadway are surfaced with packed gravel. As a result, there would be no change in surface runoff and its associated water quality during project operation. Furthermore, the project would include stormwater control improvements, including three culverts and associated energy dissipation structures and/or rip-rap hard surfaces as well as a concrete v-ditch, which would improve erosion control at the project site as compared to existing conditions. Therefore, project operation would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

The project site does not overlie a groundwater basin, and according to the geotechnical memorandum prepared for the project, groundwater is not likely to be encountered during project construction (California Department of Water Resources 2021; Ninyo and Moore 2020). Therefore, no dewatering activities would occur. In addition, although the proposed project would result in a net increase of impervious surfaces at the project site, groundwater recharge does not occur at the site under existing conditions because there is no groundwater basin below it. Furthermore, the project would improve potable water storage infrastructure for existing supplies, and acquisition of new groundwater supplies is not proposed by or required for the project. As a result, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. No impact would occur.

NO IMPACT

c.(i) 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 result in substantial erosion or siltation on- or off-site?

c.(ii) 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 substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

c.(iii) 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 that would 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?

Construction of the proposed project would increase impervious surfaces at the project site through the addition of two new reservoirs to replace the existing reservoir and through pavement of the access road. However, according to the hydrology report prepared for the project by MKN & Associates (2022), the infiltration rate of the existing site and the proposed asphalt surfaces is approximately the same because the existing project site and roadway are surfaced with packed

gravel. As a result, there would be no change in the volume of surface runoff at the project site. Furthermore, the project would include stormwater control improvements, including three culverts and associated energy dissipation structures and/or rip-rap hard surfaces as well as a concrete v-ditch that would maintain the existing drainage pattern at the project site. These improvements are intended to convey existing runoff more efficiently through the existing drainage pattern on the project site to Ceanothus Drive and reduce the amount of erosion and siltation that occurs under existing conditions due to sheet flows. Therefore, the project would not substantially alter the existing drainage pattern of the site or area through the addition of impervious surfaces in a manner that would result in substantial erosion, siltation, or flooding on- or off-site. In addition, runoff from the project site would be directed to the existing stormwater drainage system and would be adequately handled by existing facilities because there would be no increase in the volume of stormwater runoff under the proposed project (MKN & Associates 2022). Therefore, the project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c.(iv) 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 impede or redirect flood flows?

The project site is not depicted as being within a floodplain on Federal Emergency Management Agency (FEMA) maps and is classified as Zone X (Area of Minimal Flood Hazard) (FEMA 2008). The Safety Element for the Laguna Beach General Plan determined flooding is a recurring event in the city; however, flooding is unlikely at the project site due to its elevation (City of Laguna Beach 2021b). The nearest flood hazard zone is located approximately 0.3 mile west of the project site and is approximately 430 feet lower in elevation than the project site; therefore, flooding of the project site due to flood flows in this flood hazard zone is unlikely. As a result, although construction of the reservoir would incrementally increase impervious surfaces on the project site, the project would not have the potential to redirect or impede flood flows. No impact would occur.

NO IMPACT

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

The project site is located approximately 0.3 mile inland and is not in a tsunami inundation zone (CDOC 2009). In addition, as discussed under item (c[iv]), the project site is not depicted as being within a floodplain on FEMA maps, and flooding of the project site is unlikely due to the topography of the surrounding area and the distance to the nearest flood hazard zone. There are no lakes or partially enclosed bodies of water near the project site; therefore, the project site would not be at risk of inundation from a seiche. Accordingly, the project would not risk release of pollutants due to inundation. No impact would occur.

NO IMPACT

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

As discussed under checklist item (b), the project site does not overlie a groundwater basin; therefore, there is no applicable sustainable groundwater management plan. The project site is located within the San Juan Hydrologic Unit as defined in the Water Quality Control Plan for the San Diego Basin (Basin Plan), prepared by the San Diego Regional Water Quality Control Board (1994). The Basin Plan designates beneficial uses of water in the region and establishes narrative and numerical water quality objectives. The State has developed total maximum daily loads (also called TMDLs), which are a calculation of the maximum amount of a pollutant a water body can have and still meet water quality objectives established by the region. As discussed in Section 4, *Biological Resources*, approximately 0.68 acre and 243 linear feet of potential non-wetland waters potentially subject to the jurisdiction of the RWQCB is located within the Study Area (the project site plus a 100-foot buffer), and approximately 0.01 acre and 36 linear feet falls within the project site boundary. The project would not change the infiltration rate at the project site and therefore would not increase the amount of surface runoff from the project site. In addition, the project would not introduce new potential sources of pollutants at the project stie (MKN & Associates 2022). Furthermore, the project includes stormwater control improvements, including three culverts and associated energy dissipation structures and/or rip-rap hard surfaces as well as a concrete v-ditch, which would improve erosion control at the project site as compared to existing conditions. Therefore, the project would not conflict with or obstruct implementation of the Basin Plan, and no impacts would occur.

NO IMPACT

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11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	■
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	■

a. Would the project physically divide an established community?

The proposed project consists of the replacement of an existing reservoir with two new reservoirs, installation of power supply and drainage improvements, and paving of an existing access road on designated open space land adjacent to a residential area of Laguna Beach. Construction staging would occur at the project site and at the SCWD facility off Stonehill Drive. Construction staging would maintain local access for residents near the project site to the extent practicable throughout construction of the proposed project. In addition, construction would be temporary and short-term (less than one year) in nature. In addition, the proposed project components would not have the potential to physically divide an established community because they would be located on a site currently used for SCWD facilities on the edge of an existing residential area. Accordingly, the project would not physically divide an established community, and no impact would occur.

NO IMPACT

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

The project site is designated by the Laguna Beach General Plan/Local Coastal Program as Open Space (OS) and Open Space -Residential/Hillside Protection (OS-RHP) and zoned as Open Space/Conservation (OS/C) and Open Space/Conservation-Residential/Hillside Protection Zone (OS/C-R/HP). Public utility facilities are not a permitted use in the OS/C zone (LBMC Sections 25.41.004 and 25.41.006); however, per LBMC Section 25.56.018, any public utility use existing in any building or structure or on any premises at the time of the adoption of the zoning ordinance (i.e., 1994) shall be deemed to be a conforming use or a conforming structure in whatever district said use is conducted or whatever district said structure is located. The existing Reservoir 2B was constructed in 1946 (Thomas and McCarthy-Reid 2017); therefore, the public utility use of the project site is a conforming use.

The purpose of the proposed project is to provide additional capacity for SCWD's 490-pressure zone and contribute to providing a total of 1.7 MG of operational, fire, and emergency storage for this zone. The City's General Plan/Local Coastal Program includes policies and actions related to the

provision of water supplies or water infrastructure. Table 7 lists these policies and actions and provides discussion on project consistency with the General Plan/Local Coastal Program.

Table 7 Project Consistency with Laguna Beach General Plan and Local Coastal Program

Policy	Consistency
Land Use Element	
Policy 2.7: Evaluate the impact of proposed development on hillsides and along ridgelines and require building design, location, and arrangement to avoid continuous and intrusive impacts on hillside view areas and skyline profiles.	**Potentially Consistent.** The reservoir location is not visible from public vantage points at lower elevations. In addition, the potential introduction of pavement along the access road would only marginally change its appearance as compared to existing conditions. Therefore, the project would have no continuous or intrusive impacts on hillside view areas and skyline profiles.
Policy 2.10: Maximize the preservation of coastal and canyon views (consistent with the principle of view equity) from existing properties and minimize blockage of existing public and private views. Best efforts should be made to site new development in locations that minimize adverse impacts on views from public locations (e.g., roads, bluff top trails, visitor-serving facilities, etc.).	**Potentially Consistent.** The project site is not visible from private properties in the surrounding area due to intervening topography. Scenic vistas from public vantage points near the project site include views of the Aliso and Wood Canyons Wilderness Park to the northeast and broad views of oceans and beaches to the west. As discussed in Section 1, *Aesthetics*, construction equipment would be temporarily staged at the project site, which would not block views of scenic vistas as viewed from Toovet Trail. Once complete, the proposed project would not alter scenic vistas from their existing conditions because the two reservoirs would not obstruct views of the ocean and beaches as seen from the terminus of Toovet Trail and the drainage, power supply, and access road improvements would occur along an existing unpaved road and would only marginally change its appearance by potentially introducing pavement. Therefore, the project would preserve coastal and canyon views from existing properties and would noy block existing public and private views.
Policy 5.2: Ensure that all new development, including subdivisions and the creation of new building sites and remodels that involve building additions, is adequately evaluated to ascertain potential negative impacts on natural resources and adjacent development, emphasizing impact avoidance over impact mitigation. Required mitigation should be located on-site rather than off-site. Any off-site mitigation should be located within the City's boundaries and in close proximity to the project.	**Potentially Consistent with Mitigation Incorporated.** As discussed throughout this Initial Study, the proposed project would have less-than-significant impacts to aesthetics, air quality, energy, geology and soils, GHG emissions, land use and planning, mineral resources, noise, population and housing, public services, recreation, and transportation. In addition, implementation of Mitigation Measures BIO-1, CR-1, HAZ-1, and TCR-1 would reduce potentially significant impacts related to biological resources, cultural and tribal cultural resources, hazards and hazardous materials, and wildfire to less-than-significant levels.
Policy 7.3: Design and site new development to protect natural and environmentally sensitive resources, such as areas of unique scenic quality, public views, and visual compatibility with surrounding uses and to minimize natural landform alterations.	**Consistent.** As discussed in Section 1, *Aesthetics*, the project would not permanently impact scenic quality, public views, and visual compatibility at the project site or in the surrounding area. Construction equipment would be temporarily staged at the project site, which would not block views of scenic vistas as viewed from Toovet Trail. Once complete, the proposed project would not alter scenic vistas from their existing conditions because the two reservoirs would not obstruct views of the ocean and beaches as seen from the terminus of Toovet Trail and the drainage, power supply, and access road improvements would occur along an existing unpaved road and would only marginally change its appearance by potentially introducing pavement. No alterations of natural landforms would occur. Therefore, the project would not permanently impact scenic

Policy	Consistency
	quality, public views, and visual compatibility at the project site or in the surrounding area.
Policy 7.4: Ensure that development, including subdivisions, new building sites and remodels with building additions, is evaluated to ascertain potential negative impacts on natural resources. Proposed development shall emphasize impact avoidance over impact mitigation. Any mitigation required due to an unavoidable negative impact should be located on-site, where feasible. Any off-site mitigation should be located within the City's boundaries close to the project, where feasible.	**Potentially Consistent with Mitigation Incorporated.** As discussed throughout this Initial Study, the proposed project would have less-than-significant impacts to aesthetics, air quality, energy, geology and soils, GHG emissions, land use and planning, mineral resources, noise, population and housing, public services, recreation, and transportation. In addition, implementation of Mitigation Measures BIO-1, CR-1, HAZ-1, and TCR-1 would reduce potentially significant impacts related to biological resources, cultural and tribal cultural resources, hazards and hazardous materials, and wildfire to less-than-significant levels.
Policy 9.3: Ensure that the City is adequately prepared for potential hazards and natural disasters.	**Potentially Consistent.** The purpose of the proposed project is to provide an additional 0.1 million gallons of operational, fire, and emergency storage for SCWD's 490 pressure zone. Therefore, the project would enhance the City's hazard and natural disaster preparedness.
Policy 9.9: Continue to construct, update, and improve community facilities.	**Potentially Consistent.** The proposed project includes the replacement of an existing, aging reservoir with two, new reservoirs that would provide an additional 0.1 million gallons of operational, fire, and emergency storage for SCWD's 490 pressure zone. Therefore, the project would be consistent with this goal to improve community facilities.
Policy 10.3: Ensure that all new development, including subdivisions, the creation of new building sites and remodels that involve building additions, is evaluated to ascertain potential negative impacts on natural resources, ESHA and existing adjacent development. Proposed development shall emphasize ESHA impact avoidance over impact mitigation. Any mitigation required due to an unavoidable negative impact should be located on-site rather than off-site, where feasible. Any off-site mitigation should be located within the City's boundaries and in close proximity to the project.	**Potentially Consistent with Mitigation Incorporated.** As discussed throughout this Initial Study, the proposed project would have less-than-significant impacts to aesthetics, air quality, energy, geology and soils, GHG emissions, land use and planning, mineral resources, noise, population and housing, public services, recreation, and transportation. In addition, implementation of Mitigation Measures BIO-1, CR-1, HAZ-1, and TCR-1 would reduce potentially significant impacts related to biological resources, cultural and tribal cultural resources, hazards and hazardous materials, and wildfire to less-than-significant levels. Furthermore, as discussed in Section 4, *Biological Resources*, although portions of the project site are mapped as High Value Habitat, the portion of this habitat within the project site has been previously disturbed by construction of the existing Reservoir 2B and its access road. Additionally, while native plant communities occur throughout the biological Study Area (the project site plus a 100-foot buffer), no rare plants were observed within the High Value or Very High Value habitat portions of the biological Study Area. The proposed project would be primarily limited to the existing developed portions of the biological Study Area. In addition, the proposed stormwater control improvements would be installed within 10 feet of the existing access road with the exception of the culvert and energy dissipator immediately south of the reservoir location, which would be installed within 30 feet of the existing disturbed footprint of the reservoir location. These improvements would maintain existing drainage patterns and would not significantly impact the function of the habitat surrounding the existing development footprint (Appendix C).

Policy	Consistency
Landscape and Scenic Highways Element	
Policy 1.3: Reinforce City policies to protect the City's landforms, including ridgelines, hillsides, rock outcroppings, canyons, watercourses, bluffs, shoreline rock formations, beaches and the marine environment, and cultural resources.	**Potentially Consistent with Mitigation Incorporated.** The reservoir location is not visible from public vantage points at lower elevations. In addition, the potential introduction of pavement along the access road would only marginally change its appearance as compared to existing conditions. The project would not include modifications of ridgelines, hillsides, rock outcropping, canyons, significant watercourses, bluffs, shoreline rock formations, beaches, or the marine environment. Furthermore, as discussed in Section 5, *Cultural Resources,* no known historical or archaeological resources are present on the project site, and the implementation of Mitigation Measure CR-1 with protocols for handling unanticipated discoveries of archaeological resources would reduce impacts to cultural resources to a less-than-significant level.
Policy 3.5: Promote undergrounding of utilities and limit installation of new signs, visible utility items, and other features.	**Potentially Consistent.** The project would replace an existing aboveground reservoir with two new reservoirs, which would only be visible from the terminus of Toovet Trail adjacent to the project site. Therefore, the visibility of the proposed water infrastructure would be limited and would not result in significant adverse impacts to scenic resources, as discussed in Section 1, *Aesthetics*.
Policy 6.1 Require appropriate fire preparation and prevention techniques as a condition of wildland urban interface development and in the designated Very High Fire Hazard Severity Zone (VHFHSZ). Implement the guidelines and standards in the Safety Element, the other adopted City Fire and Building regulations and documents (i.e., Vegetation Management Guidelines and Requirements), and other City General Plan elements.	**Potentially Consistent**. As discussed in Section 20, *Wildfire*, based on conversations with James Brown, Fire Marshal, of the Laguna Beach Fire Department, there would be no fuel modification requirements for the design and installation of these new water reservoirs because the structures are non-flammable steel reservoirs containing water and California Government Code Section 51183 exempts structures that are entirely of non-combustible construction with entirely non-combustible contents from compliance with Section 51182 requirements for fuel modification (Brown 2021). In addition, the project would include the replacement of existing aboveground electrical panels but would not include additional aboveground electrical components. Therefore, the project would not exacerbate wildfire risk as compared to existing conditions.
Policy 8.6: Encourage drought-resistant and native landscape plant use that considers plant groupings, fire safety, slope stability, salt tolerance, location for view preservation, and the long-term health of the ecosystem.	**Potentially Consistent.** The project would not include new landscaping and therefore would not introduce water-dependent, non-native, or incompatible plantings to the project site.
Policy 8.8: Encourage landscape plant material selection that minimizes water, fertilizer, and pesticide use, that are low maintenance, fire safe, and that create plant communities with compatible habitat opportunities.	**Potentially Consistent.** The project would not include new landscaping and therefore would not result in water-dependent, incompatible plantings or the use of fertilizer or pesticides.
Policy 8.10: Prohibit planting of invasive plant species as determined by the City.	**Potentially Consistent.** The project would not include landscaping and therefore would not plant invasive species at the project site.
Policy 8.13: Continue to promote minimizing unnecessary light and glare. Promote landscape design to shade and shield absorptive dark colors, expanses of glass, and extensive hardscape.	**Potentially Consistent.** As discussed in Section 1, *Aesthetics*, the project would not include new sources of light or glare. In addition, the project would not include landscaping.

Policy	Consistency
Open Space and Conservation Element	
Policy 4A Development Planning and Design Best Management Practices (BMPs): Ensure that development plans and designs incorporate appropriate Site Design, Source Control and Structural Treatment Control Best Management Practices (BMPs), where feasible, to reduce to the maximum extent practicable, pollutants and runoff from the proposed development. Structural Treatment Control BMPs shall be implemented when a combination of Site Design and Source Control BMPs are not sufficient to protect water quality.	**Potentially Consistent**. As discussed in Section 10, *Hydrology and Water Quality*, the infiltration rate of the existing project site and the proposed asphalt surfaces is approximately the same because the existing project site and roadway are surfaced with packed gravel. Therefore, the project would not increase the volume of stormwater runoff from the project site (MKN & Associates 2022). Furthermore, the project would include stormwater control improvements, including three culverts and associated energy dissipation structures and/or rip-rap hard surfaces as well as a concrete v-ditch, which would improve erosion control at the project site as compared to existing conditions. Therefore, the project would incorporate appropriate BMPs to reduce pollutants and runoff from the project site.
Policy 4B Minimize Impervious Surfaces: Ensure that development minimizes the creation of impervious surfaces, especially contiguously connected impervious areas, or minimizes the area of existing impervious surfaces where feasible.	**Potentially Consistent**. As discussed in Section 10, *Hydrology and Water Quality*, the project would not result in a net increase in impervious surfaces because the infiltration rate of the existing project site and the proposed asphalt surfaces is approximately the same (MKN & Associates 2022). Therefore, the project would minimize the creation of impervious surfaces.
Policy 4C Minimize Volume and Velocity of Runoff: Ensure that development is designed and managed to minimize the volume and velocity of runoff (including both stormwater and dry weather runoff) to the maximum extent practicable, to avoid excessive erosion and sedimentation.	**Potentially Consistent**. As discussed in Section 10, *Hydrology and Water Quality*, the project would not result in a net increase in the volume of surface runoff at the project site because the infiltration rate of the existing project site and the proposed asphalt surfaces is approximately the same (MKN & Associates 2022). Furthermore, the project would include stormwater control improvements, including three culverts and associated energy dissipation structures and/or rip-rap hard surfaces as well as a concrete v-ditch, which would improve erosion control at the project site as compared to existing conditions.
Policy 4D Minimize Introduction of Pollutants: Ensure that development and existing land uses and associated operational practices minimize the introduction of pollutants into coastal waters (including the ocean, estuaries, wetlands, rivers and lakes) to the maximum extent practicable.	**Potentially Consistent**. The project involves the replacement of an existing potable water storage reservoir with two new potable water storage reservoirs. The project would not include components or operational practices that would introduce pollutants to the project site that could be transported to coastal waters.
Policy 4E Preserve Functions of Natural Drainage Systems: Ensure that development is sited and designed to limit disturbances and to preserve the infiltration, purification, retention and conveyance functions of natural drainage systems that exist on the site to the maximum extent practicable.	**Potentially Consistent**. As discussed in Section 4, *Biological Resources*, the project, including the proposed stormwater control improvements, would maintain the existing drainage patterns and eliminate the need for flows to cross the access road surface during storms. As a result, the project would not adversely impact the function, scenic or ecological purpose of the watershed and existing drainages within the project site and surrounding areas and would preserve the infiltration, purification, retention and conveyance functions of natural drainage systems that exist on the site to the maximum extent practicable (Appendix C).
4F Water Conservation and Native Plants: Ensure that development encourage water conservation, efficient irrigation practices and the use of native or drought tolerant non-invasive plants appropriate to the local habitat to minimize the need for fertilizer, pesticides, herbicides and excessive irrigation. Prohibit the use of invasive plants, and	Potentially Consistent. The project would not include landscaping or irrigation and therefore would not introduce water-dependent, non-native, or invasive plants to the project site. The project also would not result in the use of pesticides, herbicides, fertilizer, or irrigation systems.

Policy	Consistency
require native plants appropriate to the local habitat where the property is in or adjacent to Environmentally Sensitive Areas (ESAs).	
4G Minimize Construction Impacts. Ensure that all development minimizes erosion, sedimentation and other pollutants in runoff from construction-related activities to the maximum extent practicable. Ensure that development minimizes land disturbance activities during construction (e.g., clearing, grading and cut-and-fill), especially in erosive areas (including steep slopes, unstable areas and erosive soils), to minimize the impacts on water quality.	Potentially **Consistent**. As discussed in Section 10, *Hydrology and Water Quality*, construction activities would disturb more than one acre and therefore would require coverage under the NPDES Construction General Permit. The permit requires visual monitoring of stormwater and non-stormwater discharges, sampling, analysis, and monitoring of non-visible pollutants, and compliance with all applicable water quality standards established for receiving waters potentially affected by construction discharges. Furthermore, the Construction General Permit requires implementation of a SWPPP that outlines project-specific BMPs to control erosion. Compliance with NPDES permit requirements would control runoff, erosion, and sedimentation from project construction activities and minimize water quality impacts. Furthermore, the project would result in minimal land disturbance during construction, which would be limited to site preparation and installation of a retaining wall at the reservoir location and grading of the existing unpaved access road.
Policy 6F: Ensure that new development does not encroach on accessways nor preclude future provision of access.	**Potentially Consistent.** The presence of construction equipment and vehicles on the project site may result in limited access by members of the public to the existing access road, which also serves as a connector trail to Toovet Trail, during construction activities. However, access restrictions would be temporary, intermittent, and limited only to the approximately 10-month construction period, and this access point is not an official trailhead for the Toovet Trail. In addition, local members of the public would still be able to access Toovet Trail from other locations in the Aliso and Wood Canyons Wilderness Park, including from the Valido Trail, which commences immediately east of the intersection of Valido Road and Toto Loma Lane, approximately 0.25 mile east of the project site. Upon the completion of construction, access would be restored to its existing conditions. Therefore, the project would not encroach on accessways or preclude the provision of access.
Policy 7A: Preserve to the maximum extent feasible the quality of public views from the hillsides and along the City's shoreline.	**Potentially Consistent.** Scenic vistas from public vantage points in the hillsides near the project site include views of the Aliso and Wood Canyons Wilderness Park to the northeast and broad views of oceans and beaches to the west. As discussed in Section 1, *Aesthetics*, construction equipment would be temporarily staged at the project site, which would not block views of scenic vistas as viewed from Toovet Trail. Once complete, the proposed project would not alter scenic vistas from their existing conditions because the two reservoirs would not obstruct views of the ocean and beaches as seen from the terminus of Toovet Trail.
Policy 7K: Preserve as much as possible the natural character of the landscape (including coastal bluffs, hillsides and ridgelines) by requiring proposed development plans to preserve and enhance scenic and conservation values to the maximum extent possible, to minimize impacts on soil mantle, vegetation cover, water resources, physiographic features, erosion problems, and require recontouring and replanting	**Potentially Consistent.** The proposed project would not appear substantially different from existing conditions and would not impact the natural character of the surrounding landscapes because the project site would only be visible from one public vantage point located at the terminus of the Toovet Trail adjacent to the project site. As discussed in Section 4, *Biological Resources*, the project would require minimal vegetation removal and minimal alterations to water resources. Furthermore, as discussed in Section 10, *Hydrology and Water Quality*, the project would comply with NPDES permit requirements and therefore would not result in substantial erosion or

Policy	Consistency
where the natural landscape has been disturbed.	impacts on soil mantle. Therefore, the project would preserve as much as possible the natural character of the landscape.
Policy 8J: Detailed biological assessments shall be required for all new development proposals located within areas designated as Environmentally Sensitive Areas on the Coastal ESA Map. To protect these resources, the following shall be required: 1. No new development proposals shall be located in areas designated as "Environmentally Sensitive Areas" on the Coastal ESA Map except for uses dependent upon such resources. 2. When new development proposals are situated in areas adjacent to areas designated as "Environmentally Sensitive Areas" on the Coastal ESA Map and where these are confirmed by subsequent on-site assessment, require that development be designed and sited to prevent impacts which would significantly degrade such areas. 3. Where development is proposed on an existing subdivided lot which is otherwise developable (i.e., able to be served by utilities and access, and on slopes able to accommodate development consistent with City provisions on slope/density, grading, hazards, subdivisions and road access), and is consistent with all other policies of this Land Use Plan except for its location entirely within an identified ESA as confirmed by a site-specific assessment, the following shall apply: a. Resource Management uses including estuaries, nature centers and other similar scientific or recreational uses are permitted subject to a Conditional Use Permit to assure that uses are sited and designed to prevent degradation of the resource value; or alternatively, b. Transfer of a density bonus to another property in the vicinity able to accommodate increased density consistent with the policies of the Land Use Plan concurrent with the recordation of an open space easement or other similar instrument over the habitat area of the parcel; c. Existing dwellings shall be designated as nonconforming uses but shall be allowed to be rebuilt or repaired if damaged or destroyed by	**Potentially Consistent**. As discussed in Section 4, *Biological Resources,* a Biological Resources Assessment was prepared for the proposed project, which is included as Appendix C. A small portion of the biological Study Area overlaps with habitat that is considered to be High Value and Very High Value by the City. The area to the east and north of the reservoir site is mapped as High Value Habitat, and the area north of the access road is mapped as Very High Value Habitat. The City defines High Value Habitat as areas dominated by native plant communities and that possess high species diversity. These areas are often, but not always, adjacent to large open space areas, or linked to open space areas via traversable open space corridors. Additionally, areas identified as High Value Habitat include locales of maritime desert scrub and ceanothus chaparral (*Ceanothus leucodermis)*, due to the locally unique character of these plant communities. The City defines Very High Value Habitat as habitats that include rare, endangered, or locally unique native plant species as well as areas of southern oak woodland and natural springs and seeps (Appendix C). While the biological Study Area is adjacent to open space areas that are considered High Value and Very High Value Habitat, the portions of these habitats within the biological Study Area have been previously disturbed by construction of the existing Reservoir 2B and its access road. Additionally, while native plant communities occur throughout the biological Study Area, no rare plants were observed within the High Value or Very High Value portions of the biological Study Area (Appendix C). The proposed project would be primarily limited to the existing developed portions of the biological Study Area. In addition, the proposed stormwater control improvements would be installed within 10 feet of the existing access road with the exception of the culvert and energy dissipator immediately south of the reservoir location, which would be installed within 30 feet of the existing disturbed footprint of the reservoir location. These improvements would maintain existing drainage patterns and would not significantly impact the function of the habitat surrounding the existing development footprint (Appendix C). Therefore, with implementation of Mitigation Measures BIO-1, the project would not substantially encroach into environmentally sensitive areas and would be designed and sited to prevent impacts that would significantly degrade such areas.

Policy	Consistency
natural disaster provided however, that the floor area, height and bulk of the structure not exceed that of the destroyed structure by more than 10 percent. d. No new parcels shall be created which are entirely within a coastal ESA or which do not contain a site where development can occur consistent with the ESA policies of this Plan.	
Policy 8N: Encourage the preservation of existing drought-resistant, native vegetation and encourage the use of such vegetation in landscape plans.	**Potentially Consistent.** The project would not include landscaping and would result in the removal of a minimal amount of native vegetation, which could recolonize the pervious surfaces of the project site upon completion of the project.
Policy 9A: Promote the preservation and restoration of Laguna's natural drainage channels, freshwater streams, lakes and marshes to protect wildlife habitat and to maintain watershed, groundwater and scenic open space.	**Potentially Consistent**. As discussed in Section 4, *Biological Resources*, the project, including the proposed stormwater control improvements, would maintain the existing drainage patterns and eliminate the need for flows to cross the access road surface during storms. As a result, the project would not adversely impact the function, scenic or ecological purpose of the watershed and existing drainages within the project site and surrounding areas and would preserve Laguna's natural drainage channels (Appendix C).
Policy 9B: Prohibit filling and substantial alteration of streams and/or diversion or culverting of such streams except as necessary to protect existing structures in the proven interest of public safety, where no other methods for protection of existing structures in the flood plain are feasible or where the primary function is to improve fish and wildlife habitat. This provision does not apply to channelized sections of streams without significant habitat value.	**Potentially Consistent.** As discussed in Section 4, *Biological Resources,* there are no streams on the project site.
Policy 9C: a) Streams on the Major Watershed and Drainage Courses Map and the South Laguna and Laguna Canyon Biological Values Maps which are also "blue-line" streams identified on the USGS 7.5 Minute Quadrangle Series, shall be identified and mapped on the Coastal Environmentally Sensitive Areas Map of the Land Use Plan. For these streams, a minimum setback of 25 feet from the top of the stream banks shall be required in all new developments. A greater setback may be necessary in order to protect all riparian habitat based on a site-specific assessment. No disturbance of major vegetation, or development, shall be allowed within the setback area. This provision shall not apply to channelized sections of streams without significant habitat value. Where	**Potentially Consistent.** As discussed in Section 4, *Biological Resources*, neither drainage feature within the biological Study Area would be considered a significant watercourse as defined in the City's LCP because they do not serve a distinct functional scenic or ecological purpose. The features do not provide significant wildlife habitat, including feeding, watering, and breeding areas. Wildlife activity was low in the area during the Aquatic Resources Delineation field survey, and no evidence of nesting was observed. These features also do not serve scenic purposes, including density relief or general aesthetic appeal, due to their adjacency to dense residential development (Appendix C). Furthermore, the proposed project would be primarily limited to the existing developed portions of the project site, and the proposed stormwater control improvements would not maintain existing drainage patterns and would not significantly impact the function of the drainages located within the biological Study Area.

Policy	Consistency
development is proposed on an existing subdivided lot which is otherwise developable consistent with all City ordinances and other policies of this Plan except that application of this setback would result in no available building site on the lot, the setback may be reduced provided it is maintained at a width sufficient to protect all existing riparian habitat on the site and provided all other feasible alternative measures, such as modifications to the size, siting and design of any proposed structures, have been exhausted. b) Require a setback of a minimum of 25 feet measured from the centerflow line of all natural drainage courses or streams on the Major Watershed and Drainage Courses Map and the South Laguna and Laguna Canyon Biological Values Maps other than the "blue-line" streams referenced in 9-C(a) above. Such setback shall be increased upon the recommendation of the City Engineer and environmental planner through the environmental review process. However, a variance may be given in special circumstances where it can be proven that design of a proposed structure on an affected lot will preserve, enhance or restore the significance of the natural watercourse. At no time shall grubbing of vegetation, elimination of trees, or disturbance of habitat be allowed within the setback area before or after construction.	
Policy 9H: Coordinate, wherever possible, natural and man-made drainage structures so that natural channels will contribute to transport a volume of runoff equal (or as close as possible) to that which would have occurred if the project watershed were in its natural condition before development.	**Potentially Consistent**. As discussed in Section 10, *Hydrology and Water Quality*, the project would include stormwater control improvements, including three culverts and associated energy dissipation structures and/or rip-rap hard surfaces as well as a concrete v-ditch, intended to convey runoff more efficiently through the existing drainage pattern on the project site to Ceanothus Drive and reduce the amount of erosion and siltation that occurs during precipitation events under existing conditions. Therefore, the project would coordinate natural and man-made drainage structures so that natural channel would continue to transport a volume of runoff equal (or as close as possible) to that which would have occurred if the project watershed were in its natural condition before development.
Policy 9I: Require new development projects to control the increase in the volume, velocity and sediment load of runoff from the greatest development areas at or near the source of increase to the greatest extent feasible.	**Potentially Consistent**. As discussed in Section 10, *Hydrology and Water Quality*, the project would not result in a net increase in impervious surfaces because the infiltration rate of the existing project site and the proposed asphalt surfaces is approximately the same (MKN & Associates 2022). Furthermore, the project would include stormwater control improvements, including three culverts and associated energy dissipation structures and/or rip-rap hard surfaces,

Policy	Consistency
	which would improve erosion control and reduce the sediment load of runoff at the project site as compared to existing conditions.
Policy 9J: Require new developments to maintain runoff characteristics as near as possible to natural discharge characteristics by maintaining the natural conditions of the watershed.	**Potentially Consistent**. As discussed in Section 10, *Hydrology and Water Quality*, the project would include stormwater control improvements, including three culverts and associated energy dissipation structures and/or rip-rap hard surfaces as well as a concrete v-ditch, intended to convey runoff more efficiently through the existing drainage pattern on the project site to Ceanothus Drive and reduce the amount of erosion and siltation that occurs during precipitation events under existing conditions. Therefore, the project would maintain runoff characteristics as near as possible to natural discharge characteristics by maintaining the natural conditions of the watershed.
Policy 9T: All graded areas shall be planted and maintained for erosion control and visual enhancement purposes. Use of native plant species shall be emphasized.	**Potentially Consistent**. Portions of the project site would be graded for the reservoir pads and access road improvements. Grading would occur in areas that are currently disturbed and covered with packed gravel, and once grading is complete, these areas would be covered with impervious asphalt surfaces and the reservoir structures such that no additional erosion would occur as compared to existing conditions (MKN & Associates 2022).
Policy 10C: Require projects located in geological hazard areas to be designed to avoid the hazards, where feasible. Stabilization of hazard areas for purposes of development shall only be permitted where there is no other alternative location or where such stabilization is necessary for public safety. The more unstable areas should be left ungraded and undeveloped, utilizing land use designations such as Open Space.	**Potentially Consistent.** As discussed in Section 7, *Geology and Soils*, the project site is not located in a Alquist-Priolo fault zone or liquefaction zone, and there are no faults present in the project site. The project site is located in an earthquake induced landslide hazard zone; however, the geotechnical reconnaissance survey conducted for the project did not reveal any evidence of significant slope instability such as existing landslides, scarps, or tension cracks. Furthermore, the slope stability analysis performed for the project site confirms slopes adjacent to the project site would have adequate factors of safety under static and seismic shaking conditions, and construction of the proposed project would conform to the current seismic design provisions of the California Building Code (Ninyo and Moore 2022). Therefore, the project would be designed to avoid geological hazards.
Policy 13B: Require that development proposals, including additions and alterations to existing buildings, incorporate protection of the natural profile of ridgelines as visual resources.	**Potentially Consistent.** The reservoir location is not visible from public vantage points at lower elevations. In addition, the potential introduction of pavement along the access road would only marginally change its appearance as compared to existing conditions. Therefore, the project would have no impact to ridgelines as visual resources.
Policy 13H: Preserve public views of coastal and canyon areas from ridgelines.	**Potentially Consistent.** Scenic vistas from public vantage points near the project site include views of the Aliso and Wood Canyons Wilderness Park to the northeast and broad views of oceans and beaches to the west. As discussed in Section 1, *Aesthetics*, construction equipment would be temporarily staged at the project site, which would not block views of scenic vistas as viewed from Toovet Trail. Once complete, the proposed project would not alter scenic vistas from their existing conditions because the two reservoirs would not obstruct views of the ocean and beaches as seen from the terminus of Toovet Trail and the drainage, power supply, and access road improvements would occur along an existing unpaved road and would only marginally change its appearance by introducing pavement. Therefore, the project would preserve public views of coastal and canyon areas from ridgelines.

Policy	Consistency
Policy 14A: Require construction and grading to be concentrated on slopes of 30 percent or less.	**Potentially Consistent**. The project would replace an existing reservoir with two new reservoirs and would upgrade an existing unpaved access road. While the project site has slopes greater than 30 percent along the access road, the location of the reservoirs is relatively flat. In addition, the project does not involve construction on slopes that are previously undisturbed. Therefore, project construction and grading would be concentrated on slopes of 30 percent or less.
Policy 14F: Require grading projects to minimize earth-moving operations and encourage preservation of the natural topographic land features.	**Potentially Consistent.** The proposed project would require approximately 170 cubic yards of soil export and 10 cubic yards of soil import, which would be a minimal amount that is required to create a suitable pad for the reservoirs. In addition, project grading would be concentrated along the existing access road and would not alter natural topographic land features.
Safety Element	
Policy S-1.8: Locate new critical facilities outside of identified hazard areas to the maximum extent feasible, except as provided by Policy S-1.9. **Policy S-1.9:** If new facilities cannot be located outside of identified hazard areas, design these facilities to exceed federal, state, and local standards to ensure functionality during and after a hazard event.	**Potentially Consistent.** As discussed in Section 7, *Geology and Soils*, the project site is located in an earthquake induced landslide hazard zone; however, the geotechnical reconnaissance survey conducted for the project did not reveal any evidence of significant slope instability such as existing landslides, scarps, or tension cracks. Furthermore, the slope stability analysis performed for the project site confirms slopes adjacent to the project site would have adequate factors of safety under static and seismic shaking conditions, and construction of the proposed project would conform to the current seismic design provisions of the California Building Code (Ninyo and Moore 2022). The proposed project would include demolition of an existing, aging reservoir and installation of two new reservoirs on an existing SCWD site. The infrastructure associated with use of this site for water storage reservoirs is already in place; therefore, it is not practicable to locate the new reservoirs outside of the identified earthquake induced landslide hazard zone. The proposed project would designed in accordance with the recommendations of the geotechnical investigation prepared for the project, which would minimize the potential for earthquake induced landslides to affect the proposed project.
Policy S-2.7: Ensure that existing and new developments have adequate water supplies and conveyance capacity to meet daily demands and firefighting requirements.	**Potentially Consistent**. The purpose of the proposed project is to provide an additional 0.1 million gallons of operational, fire, and emergency water storage for SCWD's 490 pressure zone, which would increase the water supply available for firefighting.
Policy S-3.1: Require the preparation of a geotechnical investigation for applicable development projects as specified in the Municipal Code.	**Potentially Consistent**. As discussed in Section 7, *Geology and Soils*, a geotechnical investigation was prepared for the proposed project, and the design recommendations included in the report would be incorporated into the proposed project.
Policy S-3.2: Enforce bluff and hillside protection measures that control runoff and erosion.	**Potentially Consistent.** As discussed in Section 10, *Hydrology and Water Quality*, construction activities would disturb more than one acre and therefore would require coverage under the NPDES Construction General Permit. The permit requires visual monitoring of stormwater and non-stormwater discharges, sampling, analysis, and monitoring of non-visible pollutants, and compliance with all applicable water quality standards established for receiving waters potentially affected by construction discharges. Furthermore, the Construction General Permit requires implementation of a SWPPP that outlines project-specific BMPs to control erosion. Compliance with NPDES permit requirements would control runoff and erosion.

Policy	Consistency
Policy S-3.6: Prohibit the location of critical facilities (hospitals, fire and police stations, emergency operations centers, infrastructure) in geologically hazardous areas unless no feasible alternative is available and the hazard can be effectively mitigated.	**Potentially Consistent.** As discussed in Section 7, *Geology and Soils*, the project site is located in an earthquake induced landslide hazard zone; however, the geotechnical reconnaissance survey conducted for the project did not reveal any evidence of significant slope instability such as existing landslides, scarps, or tension cracks. Furthermore, the slope stability analysis performed for the project site confirms slopes adjacent to the project site would have adequate factors of safety under static and seismic shaking conditions, and construction of the proposed project would conform to the current seismic design provisions of the California Building Code (Ninyo and Moore 2022). The proposed project would include demolition of an existing, aging reservoir and installation of two new reservoirs on an existing SCWD site. The infrastructure associated with use of this site for water storage reservoirs is already in place; therefore, it is not practicable to locate the new reservoirs outside of the identified earthquake induced landslide hazard zone. The proposed project would designed in accordance with the recommendations of the geotechnical investigation prepared for the project, which would minimize the potential for earthquake induced landslides to affect the proposed project and thereby effectively mitigate this hazard.
Policy S-4.1: Ensure drainage infrastructure protects properties, conveys flood waters adequately, and enhances the built environment.	**Potentially Consistent.** The proposed project includes drainage improvements intended to convey existing runoff more efficiently from the project site to Ceanothus Drive and reduce the amount of erosion and siltation that occurs under existing conditions due to sheet flow across the project site. These improvements would protect properties from existing sheet flow and erosion, convey existing stormwater runoff adequately, and enhance the built environment.
Policy S-4.2: Require new developments and major remodels to retain on-site storm flows at or below existing conditions.	**Potentially Consistent**. As discussed in Section 10, *Hydrology and Water Quality*, the project would not result in a net increase in impervious surfaces and associated runoff because the infiltration rate of the existing project site and the proposed asphalt surfaces is approximately the same (MKN & Associates 2022). Furthermore, the project would include stormwater control improvements, including three culverts and associated energy dissipation structures and/or rip-rap hard surfaces as well as a concrete v-ditch, intended to convey runoff more efficiently through the existing drainage pattern on the project site to Ceanothus Drive and reduce the amount of erosion and siltation that occurs during precipitation events under existing conditions. Therefore, the project would not alter the volume of existing on-site storm flows as compared to existing conditions.

Source: City of Laguna Beach 1984, 2012, 2018, and 2021b

As discussed in Section 4, *Biological Resources*, the project would be consistent with the applicable General Plan/LCP policies and LBMC provisions related to the protection of biological resources. In addition, the project would require issuance of a coastal development permit from the City along with a variance to allow siting project components within the portion of the property designated as "Drainage" on the City's GIS Viewer (City of Laguna Beach 2021a). To support issuance of the variance, a hydrology and drainage study was prepared, which indicates the proposed stormwater control improvements would regulate stormwater runoff consistent with calculated values for a five-year storm event.

Therefore, the proposed project would not conflict with an applicable land use plan, policy, or regulation and is supported by policies in the City of Laguna Beach General Plan/Local Coastal Program. No impact would occur.

NO IMPACT

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12 Mineral Resources

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

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

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?

According to Mineral Land Classification Maps prepared by the CDOC, a portion of the project site is designated as Mineral Resource Zone 1, which indicates no significant mineral deposits are present (CDOC 2015). Nevertheless, the proposed project would replace an existing reservoir with two new reservoirs on a property currently used for public utility facilities, install power supply and drainage improvements, and pave an existing access road. As such, construction and operation of the proposed project would not preclude the potential for future mineral recovery activities that may occur near the project site. In addition, surrounding land uses are designated and zoned for residential and open space uses, which would not be compatible with mineral extraction activities. Therefore, no impact to mineral resources would occur.

NO IMPACT

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13 Noise

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

Overview of Noise and Vibration

Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013).

HUMAN PERCEPTION OF SOUND

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Caltrans 2013).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as

one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (10.5 times the sound energy) (Caltrans 2013).

SOUND PROPAGATION AND SHIELDING

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in the noise level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, air conditioning units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011).

DESCRIPTORS

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. The noise descriptor used for this study is the equivalent noise level (L_{eq}). L_{eq} is one of the most frequently used noise metrics; it considers both duration and sound power level. The L_{eq} is defined as the single steady-state A-weighted sound level equal to the average sound energy over a time period. When no time period is specified, a 1-hour period is assumed. The L_{max} is the highest noise level within the sampling period, and the L_{min} is the lowest noise level within the measuring period. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Groundborne Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent buildings or structures and vibration energy may propagate through the buildings or structures. Vibration may be felt, may manifest as an audible low-frequency rumbling noise (referred to as groundborne noise), and may cause windows, items on shelves, and pictures on walls to rattle. Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants at vibration-sensitive land uses and may cause structural damage.

Typically, ground-borne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous

positive or negative peak of a vibration signal. PPV is often used as it corresponds to the stresses that are experienced by buildings (Caltrans 2020).

High levels of groundborne vibration may cause damage to nearby building or structures; at lower levels, groundborne vibration may cause minor cosmetic (i.e., non-structural damage) such as cracks. These vibration levels are nearly exclusively associated with high impact activities such as blasting, pile-driving, vibratory compaction, demolition, drilling, or excavation. The American Association of State Highway and Transportation Officials (AASHTO) has determined vibration levels with potential to damage nearby buildings and structures; these levels are identified in Table 8.

Table 8 AASHTO Maximum Vibration Levels for Preventing Damage

Type of Situation	Limiting Velocity (in/sec PPV)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2–0.3
Residential buildings in good repair with gypsum board walls	0.4–0.5
Engineered structures, without plaster	1.0–1.5

in/sec = inches per second; PPV = peak particle velocity

Source: Caltrans 2020

Numerous studies have been conducted to characterize the human response to vibration. The vibration annoyance potential criteria recommended for use by Caltrans, which are based on the general human response to different levels of groundborne vibration velocity levels, are described in Table 9.

Table 9 Vibration Annoyance Potential Criteria

	Vibration Level (in/sec PPV)	
Human Response	Transient Sources	Continuous/Frequent Intermittent Sources[1]
Severe	2.0	0.4
Strongly perceptible	0.9	0.10
Distinctly perceptible	0.25	0.04
Barely perceptible	0.04	0.01

in/sec = inches per second; PPV = peak particle velocity

Source: Caltrans 2020

[1] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Project Noise Setting

Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The Laguna Beach General Plan Noise Element identifies noise-sensitive receivers as residential uses, schools, day care centers, retirement homes, and hospitals (City of Laguna Beach 2005). The nearest noise-sensitive receivers are residences located approximately 30 feet from the access road location and approximately 375 feet from the reservoir location.

Noise Measurements

The most prevalent source of noise in the project site vicinity is vehicular traffic on local roadways including State Route 1, Ceanothus Drive, Alta Loma Drive, and Holly Drive. Noise levels at similar locations that consist of the interface between residential neighborhoods and open space in Laguna Beach experience ambient noise levels ranging between 45 to 61 dBA L_{eq} during daytime hours (City of Laguna Beach 2005).

Regulatory Setting

Chapter 7.25, *Noise*, of the Laguna Beach Municipal Code (LBMC) establishes a series of regulations and standards to prevent excessive noise that may jeopardize the health, welfare or safety of the citizens or degrade their quality of life. Specifically, LBMC Section 7.25.040(A), *Exterior Noise Standards*, establishes exterior noise standards categorized by five noise zones in the city. As shown in Table 10, the noise standards for these zones differ between daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) hours.

Table 10 Exterior Noise Level Standards

		Noise Level (dBA L_{eq})	
Noise Zone	Land Use	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
I	Residential	60 dBA	50 dBA
II	Commercial	65 dBA	65 dBA
III	Mixed-Use – Residential	65 dBA	55 dBA
IV	Downtown Specific Plan	70 dBA	70 dBA
V	Manufacturing, Industrial	70 dBA	60 dBA

dBA = A-weighted decibel; L_{eq} = steady-state equivalent noise level

Source: LBMC Section 7.25.040

According to LBMC Section 7.25.040(B), it is unlawful for any person at any location within the city to create noise which causes the noise level when measured on any other property to: 1) exceed the noise standard for the applicable zone for any 15-minute period, or 2) a maximum instantaneous (single instance) noise level equal to the noise standard plus 20 dBA for any period of time.

LBMC Section 7.25.050(E) exempts noise sources associated with construction, repair, remodeling, demolition or grading of any real property from compliance with the noise level limits contained in the LBMC. This section indicates that such noise-generating activities are subject to the provisions of LBMC Section 7.25.080, *Construction Activity Noise Regulations*, which prohibits the operation of any tool or equipment used for construction activities or any other related building activity between the hours of 6:00 p.m. and 7:30 a.m. on weekdays, whereas such construction activities are prohibited entirely on weekends and federal holidays.

As listed in LBMC Section 7.25.060, *Loud and Disturbing Noise*, any loud, excessive, impulsive or intrusive noise, disturbance or commotion, which disturbs the peace or quiet of any area or which causes discomfort or annoyance to any reasonable person of normal sensitivities in the area, is prohibited from any person or property owner. The types of loud, disturbing, excessive, impulsive or intrusive noise may include, but is not limited to, yelling, shouting, hooting, whistling, singing, playing a musical instrument, and emitting or transmitting any loud music or noise from any mechanical or electrical sound making or sound-amplifying device.

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?

Construction Noise

Construction activity would generate temporary noise in the project site vicinity, exposing surrounding sensitive receivers to increased noise levels. Project construction noise would be generated by heavy-duty diesel construction equipment used for demolition, site preparation, grading, reservoir installation, and site restoration activities. Each phase of construction has a specific equipment mix and associated noise characteristics, depending on the equipment used during that phase. Construction noise would typically be higher during the more equipment-intensive phases of initial construction (i.e., demolition, site preparation, and grading work) and would be lower during the later construction phases (i.e., reservoir installation and site restoration). Construction noise was estimated using reference noise levels and equipment use factors from the FHWA Roadway Construction Noise Model (RCNM; 2006). Noise impacts from construction equipment are typically assessed from the center of the equipment activity area (e.g., construction site, grading area, etc.) over the time period of a construction day. Due to the size of the project site, modeling conservatively assumes simultaneous operation of the three loudest pieces of construction equipment during each construction phase.

As indicated under *Description of Project*, project construction activities would occur five days per week, between 8:00 a.m. and 5:00 p.m. and would therefore be in compliance with the allowable hours of construction pursuant to LBMC Section 7.25.080. However, for purposes of analyzing impacts from this project, the FTA *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) criteria were used. The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction. For residential uses, the daytime noise threshold is 80 dBA L_{eq} for an 8-hour period (FTA 2018).

The closest sensitive receivers to project construction would be residences along Ceanothus Drive. Project construction activities during the demolition, site preparation, reservoir installation, and site restoration phases would occur at the reservoir location, the center of which is located approximately 470 feet from the nearest residences. Project construction activities during the grading phase would occur at both the reservoir location and along the access road; the center of this work area is approximately 115 feet from the nearest residences. Over the course of a typical construction day, the construction equipment would be mobile and would operate at these average distances from the nearest residences; therefore, these are the distances at which construction noise levels were estimated. Table 11 presents construction noise levels for each phase of construction. As shown therein, construction noise levels would range from approximately 58 to 76 dBA L_{eq} at the nearest residences, which does not exceed the daytime construction noise threshold of 80 dBA L_{eq}. Therefore, construction noise impacts would be less than significant.

Table 11 Construction Noise Levels at Sensitive Receivers

Construction Phase	Loudest Three Pieces of Equipment	Distance from Center of Work Area to Nearest Sensitive Receiver (feet)	Average Noise Level (dBA L_{eq})
Demolition	Concrete/Industrial Saw, Excavator, Skid Steer Loader	470	65
Site Preparation	Bore/Drill Rig, Rubber Tired Dozer, Rubber Tired Loader	470	62
Grading	Compactor, Rubber Tired Dozer, Grader	115	76
Reservoir Installation	Compactor, Compressors (2)	470	60
Site Restoration	Backhoe, Rough Terrain Forklift, Skid Steer Loader	470	58
Threshold			**80**
Threshold Exceeded?			**No**

dBA = A-weighted decibel; L_{eq} = average equivalent noise level

See Appendix F for RCNM output files.

Operational Noise

Upon completion of construction, operational activities at the project site would be the same as under existing conditions. The two new reservoirs would not include noise-generating components, and no additional operations and maintenance trips to the project site beyond existing conditions would occur. Therefore, no operational noise impacts would occur.

LESS THAN SIGNIFICANT IMPACT

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

Construction

Project construction would not involve activities typically associated with excessive groundborne vibration such as pile driving or blasting. The equipment utilized during project construction that would generate the highest levels of vibration would include rollers, loaded trucks, and bulldozers. The City of Laguna Beach has not adopted standards to assess vibration impacts during construction and operation. However, Caltrans has developed limits for the assessment of vibration from transportation and construction sources. The Caltrans vibration limits are reflective of standard practice for analyzing vibration impacts on structures from continuous and intermittent sources. The thresholds of significance used in this analysis to evaluate vibration impacts are based on these impact criteria, as summarized in Table 8 and Table 9.

Project construction may require operation of vibratory equipment such as loaded trucks and bulldozers near off-site structures. As shown in Table 12, vibration levels from individual pieces of construction equipment would not exceed the threshold at which damage can occur to residential structures (0.20 inches per second PPV) or the threshold at which transient vibration sources would

be distinctly perceptible (0.25 inches per second PPV). Furthermore, construction activities would generally occur five days per week, between 8:00 a.m. and 5:00 p.m., which would be outside the vibration-sensitive hours of sleep. Therefore, construction vibration impacts would be less than significant.

Table 12 Vibration Levels at Sensitive Receivers

Equipment	Estimated Vibration Level at Nearest Building (in/sec PPV)
Large Bulldozer[1]	0.06
Loaded Truck[2]	0.13
Threshold for Structural Damage	0.2
Threshold Exceeded?	**No**
Threshold for Human Annoyance	0.25
Threshold Exceeded?	**No**

in/sec = inches per second; PPV = peak particle velocity

[1] Measured at a distance of 35 feet (the distance from the nearest structure to the project site).

[2] Measured at a distance of 15 feet (the distance from the nearest structure to the center of the nearest travel lane).

See Appendix F for vibration analysis worksheets.

Operation

The proposed project includes installation of two new water storage reservoirs, which would not include vibration-generating components. No operational vibration impact would occur.

LESS THAN SIGNIFICANT IMPACT

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?

The closest airport to the project site is John Wayne Airport, located approximately 13.3 miles northwest of the project site, and the project site is not within an airport land use plan. Given the distance of the airport from the project site, the project would not expose people residing or working in the project area to excessive noise levels. No impact would occur.

NO IMPACT

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14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	■
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

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

The proposed project would involve replacement of the existing Reservoir 2B with two new reservoirs. The project does not propose construction of new homes and would therefore not directly induce population growth in the service area. The proposed project would provide an additional 0.1-MG of capacity for SCWD's 490-pressure zone, which would allow SCWD to better serve existing demand and planned growth in its service area as well as improve SCWD's ability to provide water supplies for firefighting and emergency storage. The proposed project is not intended to serve unplanned growth. Furthermore, the proposed reservoirs would be maintained by existing SCWD employees and would not indirectly induce population growth as a result of new employment opportunities. Therefore, the project would not indirectly support population growth. As a result, the project would not induce substantial unplanned population growth, either directly or indirectly, and no impact would occur.

NO IMPACT

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

The project site is currently used by SCWD for its existing Reservoir 2B facility. The proposed reservoirs would be located on the same property as the existing reservoir, and the drainage, power supply, and access road improvements would occur along the existing access road alignment. Therefore, the project would not displace any existing housing or people, and no impact would occur.

NO IMPACT

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15 Public Services

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

a.1-5 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, and/or other public facilities?

As discussed in Section 14, *Population and Housing*, construction and operation of the proposed project would not result in direct or indirect population growth. Although the proposed project is located in a designated VHFHSZ, the proposed project would replace the existing Reservoir 2B with two new steel welded reservoirs, which would not be flammable. In addition, the project would include the replacement of existing aboveground electrical panels but would not include additional aboveground electrical components. Therefore, the project would not result in new permanent facilities that would generate the need for additional fire or police protection services, schools, parks, or other public facilities. No impact to public services would occur.

NO IMPACT

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16 Recreation

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

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

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

As discussed in Section 14, *Population and Housing*, the proposed project would not directly or indirectly result in population growth. The presence of construction equipment and vehicles on the project site may result in limited access by members of the public to the existing access road, which also serves as a connector trail to Toovet Trail, during construction activities. However, access would only be limited temporarily and intermittently during the approximately 10-month construction period, and this access point is not an official trailhead for the Toovet Trail. In addition, local members of the public would still be able to access Toovet Trail from other locations in the Aliso and Wood Canyons Wilderness Park, including from the Valido Trail, which commences immediately east of the intersection of Valido Road and Toto Loma Lane, approximately 0.25 mile east of the project site. Therefore, the proposed project would not significantly increase the need for or use of neighborhood and regional parks or other recreational facilities. In addition, the proposed project does not include recreational facilities and would not require the construction or expansion of recreational facilities. Impacts to recreational facilities would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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17 Transportation

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

The City's General Plan/Local Coastal Program, Downtown Specific Plan, and the Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) are the primary plans that address the circulation system in Laguna Beach. The Transportation, Circulation, and Growth Management Element of the General Plan/Local Coastal Program contains policies regarding addressing traffic levels, reducing the use of private vehicles, expanding bicycle and pedestrian facilities, and increasing alternative transportation modes (City of Laguna Beach 1999). The City has updated its Downtown Specific Plan several times since its adoption in 1989, and recent updated components include goals and strategies to increase transit, bicycle, and pedestrian facilities in downtown (City of Laguna Beach 2017). The most recent iteration of the SCAG RTP/SCS, also called Connect SoCal, is a long-range planning document that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility in the SCAG region.

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

Project construction would occur over the course of approximately ten months, during which time there would be a temporary increase in heavy truck trips and construction worker vehicle trips on the existing regional and local roadway network near the project site. Construction-related trips would consist primarily of passenger cars and light duty pickup trucks used by construction workers, haul truck trips to export and import soil and demolition materials from the project site, and occasional movement of heavy equipment and materials to and from the construction site. Construction workers would park at off-site locations and in available turnouts along the existing access road and along nearby existing paved roadways. Construction traffic would likely utilize State Route 1 (Coast Highway), West Street, Monterey Street, Ocean View Street, Holly Drive, Alta Loma

Drive, and Ceanothus Drive to access the project site. No transit, bicycle, or pedestrian facilities are located on Ceanothus Drive in front of the project site.

Although the minimal number of heavy trucks associated with project construction could result in occasional slow-downs in vehicular traffic on local roadways, construction activities and staging would occur within the boundaries of the project site and would not require lane or road closures. The limited amount of construction traffic would not have the potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Furthermore, as described under *Description of Project*, the project would not require additional maintenance trips beyond those currently occurring to the site under existing SCWD operations. Therefore, no impact would occur.

NO IMPACT

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

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Specifically, the guidelines state VMT exceeding an applicable threshold of significance may indicate a significant impact. According to CEQA Guidelines Section 15064.3(b)(3), a lead agency may include a qualitative analysis of operational and construction traffic. Currently, official measures and significance thresholds related to VMT are still being developed and have not yet been adopted by the City of Laguna Beach.

A VMT calculation is typically conducted on a daily or annual basis for long-range planning purposes. As discussed under checklist item (a), traffic on local roadways would be temporarily increased during project construction due to the presence of construction vehicles and equipment. Increases in VMT from construction would be short-term, minimal, and temporary. As described under *Description of Project*, the project would not require additional maintenance trips beyond those currently occurring to the site under existing SCWD operations; therefore, no operation-related increase in VMT would occur. As such, no impact associated with VMT per CEQA Guidelines Section 15064.3 would occur.

NO IMPACT

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

The proposed project would not alter existing public roadway alignments and would not include sharp curves or unsafe designs that would increase traffic hazards. The project also would not substantially change the built configuration of roadways in the project site. Although the minimal number of heavy trucks associated with project construction could result in occasional slow-downs in vehicular traffic on local roadways, construction activities and staging would occur within the boundaries of the project site and would not require lane or road closures. There would be no impact.

NO IMPACT

d. Would the project result in inadequate emergency access?

Although the minimal number of heavy trucks associated with project construction could result in occasional slow-downs in vehicular traffic on local roadways, construction activities and staging would occur within the boundaries of the project site and would not require lane or road closures that could impair emergency access. Upon completion of construction, operational activities at the project site would be the same as under existing conditions and would not impair emergency access. Therefore, the project would not result in inadequate emergency access, no impact would occur.

NO IMPACT

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18 Tribal Cultural Resources

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

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted, expanding CEQA by defining a new resource category of "tribal cultural resources." AB 52 establishes that "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is:

1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project," specifically with those Native American tribes that have requested notice of projects proposed within the jurisdiction of the lead agency.

On November 15, 2021, SCWD sent notification letters via certified mail to 17 contacts from 14 California Native American Tribes that are traditionally and culturally affiliated with the project area pursuant to PRC Section 21080.3.1 and AB 52. The letters were sent to representatives of the Gabrieleño Band of Mission Indians - Kizh Nation, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino/Tongva Nation, Gabrielino Tongva Indians of California Tribal Council, Gabrielino-Tongva Tribe, Juaneño Band of Mission Indians, Juaneño Band of Mission Indians Acjachemen Nation – Belardes, Juaneño Band of Mission Indians Acjachemen Nation – Romero, La Jolla Band of Luiseño Indians, Pala Band of Mission Indians, Pauma Band of Luiseño Indians, San Luis Rey Band of Mission Indians, Santa Rosa Band of Cahuilla Indians, and the Soboba Band of Luiseño Indians.

On November 23, 2021, Andrew Salas, Chairman of the Gabrieleño Band of Mission Indians - Kizh Nation, responded requesting AB 52 consultation for the project. An AB 52 meeting between the representatives of Gabrieleño Band of Mission Indians - Kizh Nation, SCWD, and Rincon was scheduled for January 25, 2022. The SCWD did not receive any other requests for Tribal consultation. Native American Tribes wishing to partake in AB 52 consultation are required to have responded by December 15, 2021.

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is 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)?

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is 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?

On January 25, 2022, prior to the AB 52 consultation meeting scheduled with the Gabrieleño Band of Mission Indians - Kizh Nation, Ms. Brandy Salas of the Gabrieleño Band of Mission Indians – Kizh Nation responded to SCWD stating the Tribe decided to defer to Juaneño Band of Mission Indians because the project site is south of Aliso Creek and therefore outside of their Tribal Ancestral Lands. Ms. Salas also requested the Tribe be contacted for consultation if any tribal cultural resources are found as part of the project. The Gabrieleño Band of Mission Indians – Kizh Nation and SCWD agreed consultation for the project was concluded via email the same day.

While no specific tribal cultural resources were identified during the AB 52 consultation process, the SLF search was returned with positive results, and during previous outreach conducted with Native American Tribes, Ms. Perry of the Juaneño Band of Mission Indians, Acjachemen Nation- Belardes identified the project site vicinity as sensitive for Native American tribal cultural resources (Rincon 2021b). Therefore, it is possible that unanticipated tribal cultural resource deposits and/or human remains could be encountered and damaged during the ground-disturbing activities associated with construction (such as grading and excavation), especially if those activities occur in less-disturbed buried sediments. Consequently, impacts to tribal cultural resources would be potentially significant. Implementation of Mitigation Measure TCR-1 would be required in the event cultural resources of Native American origin are identified during ground-disturbing activities to reduce impacts to a less-than-significant level.

Mitigation Measure

TCR-1 Unanticipated Discovery of Tribal Cultural Resources

In the event cultural resources of Native American origin are identified during ground-disturbing activities, all earth-disturbing work within 50 feet of the find shall be temporarily suspended or redirected until a qualified archaeologist has evaluated the nature and significance of the find; an appropriate Native American representative(s), based on the nature of the find, is consulted; and mitigation measures are put in place for the disposition and protection of any find pursuant to Public Resources Code Section 21083.2. If SCWD, in consultation with local Native Americans, determines the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with State guidelines and in consultation with local Native American group(s) prior to continuation of any earth-disturbing work within the vicinity of the find. The plan shall include avoidance of the resource or, if avoidance of the resource is infeasible, shall outline the appropriate treatment of the resource in coordination with the appropriate local Native American tribal representative and, if applicable, a qualified archaeologist. Examples of appropriate mitigation for tribal cultural resources include, but are not limited to, protecting the cultural character and integrity of the resource, protecting traditional use of the resource, protecting the confidentiality of the resource, or heritage recovery.

Significance after Mitigation

Implementation of Mitigation Measure TCR-1 would require implementation of avoidance measures for and evaluation of any unanticipated discoveries of cultural resources of Native American origin, which would reduce potential impacts to tribal cultural resources to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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19 Utilities and Service Systems

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

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

The proposed project would involve replacement of the existing Reservoir 2B with two new reservoirs and therefore itself would result in the construction of new, expanded water facilities and upgrades to the appurtenant electrical and telecommunications facilities, all of which would be located on the project site. The environmental impacts of the proposed project, inclusive of these facilities, are discussed throughout this document; no additional environmental impacts associated with the construction of new, expanded water, stormwater, and electric power facilities would

occur beyond those already disclosed herein. The project itself would not require wastewater treatment or natural gas facilities. Furthermore, as discussed in Section 14, *Population and Housing*, construction and operation of the proposed project would not result in direct or indirect population growth and therefore would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities associated with unplanned population growth. Accordingly, no impacts would occur.

NO IMPACT

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

The proposed project would require the use of water during construction for dust suppression; however, water consumption associated with dust suppression would be temporary and minimal because only disturbed areas would be watered. In addition, operation of the proposed project would not increase water consumption because the purpose of the project is to allow SCWD to better serve existing demand and planned growth in its service area as well as improve SCWD's ability to provide water supplies for firefighting and emergency storage. The project would improve potable water storage infrastructure for existing supplies, and acquisition of new water supplies is not proposed by or required for the project. Therefore, no impacts to water supplies would occur.

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

The proposed project would not generate wastewater; therefore, no impact would occur.

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?

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

The project would involve the replacement of the existing Reservoir 2B with two steel-welded reservoirs. LBMC Section 7.19.040 requires that construction or demolition projects divert a minimum of 50 percent of construction and demolition debris. The project would meet this waste diversion standard during construction. Operation of the project would not generate solid waste. Therefore, the project would not 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, and the project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste. No impact would occur.

NO IMPACT

20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	■
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	■	☐	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	■	☐
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	■

The entire coastal southern California region is prone to large wildfires due to its hot, dry climate and expansive coverage of ignitable vegetation. During the autumn and winter months, strong offshore Santa Ana wind events carry dry, desert air and can fan fast-moving fires that spread rapidly from heavily-vegetated wilderness and mountainous areas into developed communities. Laguna Beach is surrounded by natural, undeveloped hillsides, and many communities are situated close to these hillsides. All canyon and hillside areas in and surrounding the city and some coastal terrace areas are designated by CAL FIRE as a VHFHSZ, the most severe wildfire risk designation. Nearly 90 percent of the city is within a VHFHSZ (CAL FIRE 2007; City of Laguna Beach 2021b).

While a natural ecological process in coastal chaparral and forest systems, wildfire return intervals have decreased throughout southern California, resulting in more frequent ecological disturbance, loss of biodiversity, and colonization by non-native grass species (United States Forest Service 2018). Furthermore, post-fire conditions leave exposed mountain slopes and hillsides vulnerable to surface erosion and runoff. Debris flows during post-fire rainy seasons can pose a risk to life and property

and occur with little warning. In southern California, as little as 0.3 inch of rain in 30 minutes can produce debris flows on post-fire landscapes (United States Geological Survey 2018).

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

The project site is within a VHFHSZ and is adjacent to open space vegetated with native plant communities, which are highly combustible. As discussed in Section 9, *Hazards and Hazardous Materials*, the City of Laguna Beach has an EOP that includes emergency preparedness guidance for emergency service providers, City staff, and elected officials. The EOP focuses on identifying life safety measures, restoring businesses and community services after the occurrence of a disaster, and implementing procedures for cost recovery efforts. Construction activities and staging would occur within the boundaries of the project site and would not require lane or road closures that could impair emergency access and evacuation. Therefore, no impact related to emergency response and emergency evacuation plans would occur.

LESS THAN SIGNIFICANT IMPACT

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, 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?

The project site is within a VHFHSZ and is adjacent to open space vegetated with native plant communities, which are highly combustible. The wildland-urban interface could pose the potential for incidents of fire during project construction. As a result, project construction would potentially exacerbate wildfire risk, and impacts would be potentially significant. Implementation of Mitigation Measure HAZ-1 would be required to minimize the potential for construction activities to expose persons to pollutant concentrations from a wildfire, thereby reducing impacts to a less-than-significant level.

As discussed in Section 9, *Hazards and Hazardous Materials*, the proposed project would include the replacement of Reservoir 2B with two new, steel welded reservoirs, which would not be flammable. Based on conversations with James Brown, Fire Marshal, of the Laguna Beach Fire Department, there would be no fuel modification requirements for the design and installation of these new reservoirs because the structures are non-flammable steel reservoirs containing water and California Government Code Section 51183 exempts structures that are entirely of non-combustible construction with entirely non-combustible contents from compliance with Section 51182 requirements for fuel modification (Brown 2021). The proposed project would also include the installation of new power supply equipment, including an underground electrical service feeder and aboveground meter pedestal and transformer, which would have the potential to increase the risk of wildfire during project operation. However, SDG&E implements numerous fire safety measures in order to protect people and property from utility-related wildfires. SDG&E's Service Standards & Guide provides several operating procedures for electrical equipment to reduce risk of fire, including standards for the installation and handling of meters and related electrical equipment (SDG&E 2020). Furthermore, aboveground electrical equipment would be located inside nonflammable metal structures, which would reduce the potential for accidental sparks to ignite nearby vegetation. Thus, project components would not have the potential to exacerbate wildfire risk during operation, and impacts would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, 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?

The project site is within a VHFHSZ. The proposed project would include the replacement of Reservoir 2B with two new, steel welded reservoirs, which would not be flammable. As discussed under item (b), there would be no fuel modification requirements for the design and installation of the new reservoirs (Brown 2021). Furthermore, the installation of new power supply equipment would be conducted in accordance with SDG&E's Service Standards & Guide which provides several operating procedures for electrical equipment to reduce risk of fire, including standards for the installation and handling of meters and related electrical equipment (SDG&E 2020). Furthermore, aboveground electrical equipment would be located inside nonflammable metal structures, which would reduce the potential for accidental sparks to ignite nearby vegetation. Therefore, the installation and operation of associated infrastructure, such as aboveground electrical utility components, would not exacerbate fire risk or result in temporary or ongoing impacts to the environment, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The project site is within a VHFHSZ and a designated earthquake-induced landslide hazard zone (CGS 2016). However, as discussed in Section 7, *Geology and Soils,* the geotechnical reconnaissance survey conducted for the project did not reveal evidence of significant slope instability such as existing landslides, scarps, or tension cracks. Furthermore, as discussed in Section 10, *Hydrology and Water Quality,* the project would not result in substantial changes to the drainage patterns on the project site. In addition, the project does not include habitable structures and therefore would not expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. No impact would occur.

NO IMPACT

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21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project:				
a. 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. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	■
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	■	☐

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

As discussed in Section 4, *Biological Resources*, the project would not 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. As discussed in Section 5, *Cultural Resources*, the project site does not contain any known historical or archaeological or tribal cultural resources. As a result, the

proposed project would not eliminate an important example of major periods of California history or prehistory.

NO IMPACT

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

As described in the discussion of environmental checklist Sections 1 through 20, with respect to all environmental issues, the proposed project would not result in significant and unmitigable impacts to the environment. All anticipated impacts associated with the proposed project would be less than significant. This is largely due to the fact that project construction activities would be temporary, infrequent, and low-intensity and would not significantly alter the environmental baseline condition. In addition, upon the completion of construction, there would be no change in SCWD operations as compared to baseline conditions.

Cumulative impacts could occur if the construction of other projects occurs at the same time as the proposed project and in the same geographic scope, such that the effects of similar impacts of multiple projects combine to create greater levels of impact than would occur at the project-level. For example, if the construction of other projects in the area occurs at the same time as project activities, combined air quality and noise impacts may be greater than at the project-level.

Seven residential projects in the neighborhoods near the project site are currently in the planning stage and are located at 31295 Ceanothus Drive, 31162 Monterey Street, 31372 Monterey Street, 31281 Monterey Street, 31101 Brooks Street, 31392 Holly Drive, and 22191 Paseo del Sur (City of Laguna Beach 2021e). The exact implementation timing of these projects is not known; therefore, it is possible that implementation of these projects and the proposed project may overlap. No other probable future projects within 0.5 mile of the project site are known at this time.

Project impacts are primarily temporary, localized effects that would occur during project construction. Therefore, the potential for the project to contribute to cumulative impacts would be limited to the infrequent periods of project activities and the following issue areas:

- **Air Quality**. Because the SCAB is in nonattainment for the federal standards for ozone and $PM_{2.5}$ and the State standards for ozone, PM_{10}, and $PM_{2.5}$, cumulative air quality impacts currently exist for these pollutants. As discussed in the Section 3, *Air Quality*, project construction activities would not generate emissions of these air pollutants in excess of SCAQMD regional or localized significance thresholds, which are intended to assess whether a project's contribution to existing cumulative air quality impacts is considerable. Therefore, the project's contribution to cumulative air quality impacts would not be cumulatively considerable.
- **Biological Resources**. If the proposed project and other planned residential projects in nearby neighborhoods are constructed during the bird nesting season, these projects could result in cumulative impacts to special status bird species and nesting birds within the vicinity of project site. However, all projects, including the proposed project, would be required to adhere to the provisions of the MBTA and CFGC related to the protection of nesting birds. In addition, many of the planned residential projects would occur in currently developed areas with low potential for sensitive biological resources to be present, and all projects would be required to comply with the biological resources policies and standards of the City's General Plan and LCP and the LBMC, which would minimize the potential for these projects to result in cumulative impacts to special

status species, wetlands, wildlife movement, and biological resources protected by local policies and ordinances. Furthermore, the proposed project was found to have no impacts related to sensitive natural communities, riparian habitat, and adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plan and therefore would not combine with other projects to result in cumulative impacts to these resources.

- **Greenhouse Gas Emissions.** GHG emissions and climate change are, by definition, cumulative impacts. As discussed in Section 8, *Greenhouse Gas Emissions*, the adverse environmental impacts of cumulative GHG emissions, including sea level rise, increased average temperatures, more drought years, and more large forest fires, are already occurring. As a result, cumulative impacts related to GHG emissions are significant. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed in Section 8, *Greenhouse Gas Emissions*, project emissions would be below the identified threshold of significance and would therefore not be cumulatively considerable.
- **Hazards and Hazardous Materials.** Similar to the proposed project, cumulative development projects in the local neighborhoods would be required to comply with regulations applicable to the use, disposal, and transportation of hazardous materials, and compliance with applicable regulations would reduce potential cumulative impacts to less-than-significant levels. With respect to the use and accidental release of hazardous materials in the environment at construction sites and the inadvertent mobilization of existing hazardous contaminants from construction activities, effects are generally limited to site-specific conditions. Therefore, there would be no cumulative impact related to accidental release of hazardous materials.
- **Noise.** Overlapping construction activities associated with cumulative development projects in the local neighborhoods in conjunction with proposed project activities could result in cumulative noise impacts related to a temporary increase in ambient noise levels at the same noise-sensitive residences located throughout the area, especially during construction activities at 31295 Ceanothus Drive, which is located approximately 140 feet southwest of the project site. However, as discussed in Section 13, *Noise*, the proposed project would not result in temporary noise levels in excess of the daytime construction noise threshold, and residential projects such as the one at 31295 Ceanothus Drive typically do not involve highly intensive construction activities with simultaneous operation of multiple pieces of heavy-duty construction equipment that generate significant levels of noise. Therefore, no cumulative construction noise impact would occur.

Given the above discussion, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact.

NO IMPACT

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

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise impacts. The project would not conflict with or obstruct implementation of the SCAQMD's AQMP and would not expose human beings to substantial air pollutant emissions in excess of SCAQMD regional and localized significance thresholds. As discussed in Section 9, *Hazards and Hazardous Materials*, compliance with federal, state, and local laws regulating the transportation of hazardous materials would prevent the accidental release of hazardous materials

during construction, and the project would not involve the use of hazardous materials during operation. As discussed in Section 13, *Noise*, project construction noise would not the threshold of significance, and operation of the reservoirs would not involve noise-generating components. Therefore, the project would not adversely affect human beings, directly or indirectly, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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List of Preparers

Rincon Consultants, Inc. prepared this IS-MND under contract to the South Coast Water District. Persons involved in data gathering analysis, project management, and quality control are listed below.

RINCON CONSULTANTS, INC.

Jennifer Haddow, PhD, Principal Environmental Scientist
Annaliese Miller, Environmental Planner
Yasaman Samsamshariat, Environmental Planner
Kayleigh Limbach, Environmental Planner
Ethan Knox, Environmental Planner
Brenna Vredeveld, MESc, Supervising Biologist
Jared Reed, Senior Biologist
Christopher A. Duran, MA, RPA, Principal/Senior Archaeologist
Breana Campbell-King, MA, RPA, Senior Archaeologist
Courtney Montgomery, Archaeologist
Jennifer DiCenzo, Senior Paleontologist
Jorge Mendieta, Paleontologist
Marcus Klatt, GIS Manager/Specialist
Isabelle Radis, GIS Analyst
Emily Gaston, GIS Analyst
Allysen Valencia, GIS Analyst
Erik Holtz, GIS Analyst
Yari Ramirez, Publishing Specialist

Appendix A

Preliminary Project Plans

SOUTH COAST WATER DISTRICT

CONSTRUCTION PLANS

FOR

RESERVOIR 2B REPLACEMENT PROJECT (TWO 0.1 MG)

CONTRACT NO. 22-02-0019

FEBRUARY 2022

SOUTH COAST WATER DISTRICT
BOARD OF DIRECTORS:

RICK ERKENEFF, PRESIDENT
DOUG ERDMAN, VICE PRESIDENT
BILL GREEN
SCOTT GOLDMAN
WAYNE RAYFIELD

REVIEWED BY:
SOUTH COAST WATER DISTRICT

MARC A. SERNA R.C.E. 54598 DATE
CHIEF ENGINEER

mkn
16310 BAKE PARKWAY
IRVINE, CA 92618 (714) 213-9798

PREPARED BY:
MICHAEL K. NUNLEY & ASSOCIATES, INC.

PROJECT MANAGER:

RYAN GALLAGHER No. C 74805 Expires 12/31/22 CIVIL STATE OF CALIFORNIA

XX/XX/20XX

RYAN GALLAGHER R.C.E. C74805 DATE
(EXPIRES: 12/31/22)

PROJECT ENGINEER:

TANNER BENNETT No. C 81334 Expires 09/30/23 CIVIL STATE OF CALIFORNIA

XX/XX/20XX

TANNER BENNETT R.C.E. C81334 DATE
(EXPIRES: 9/30/23)

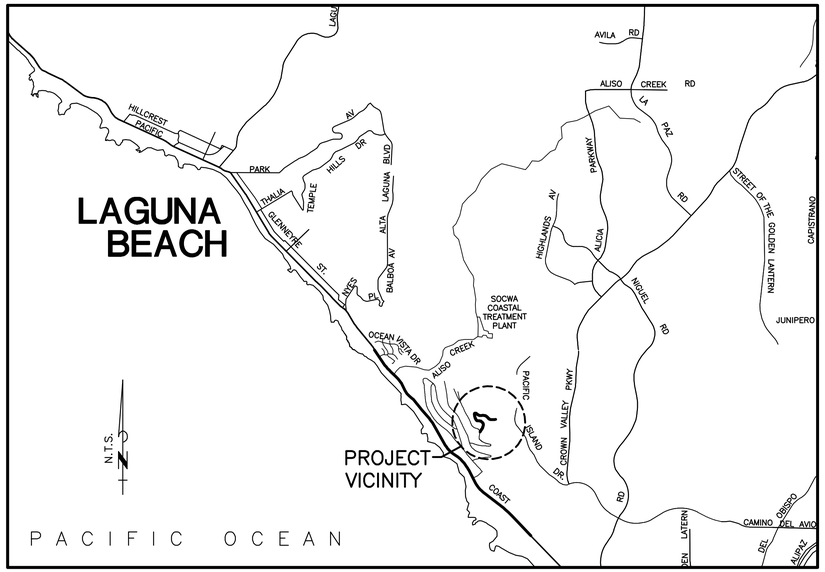
FOR PRELIMINARY USE ONLY
NOT TO BE USED FOR CONSTRUCTION

DIGALERT CALL TOLL FREE 811 TWO WORKING DAYS BEFORE YOU DIG Underground Service Alert

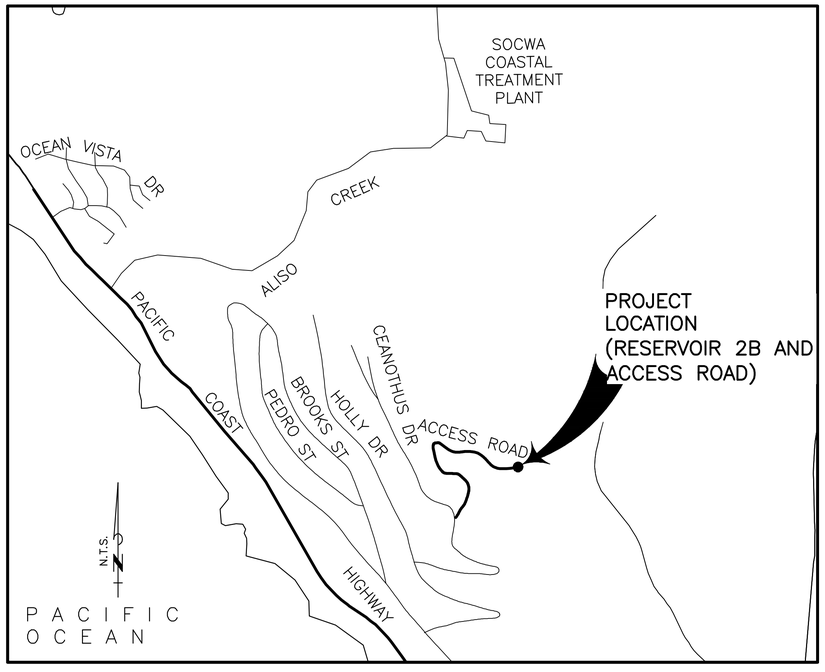
CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

\\192.168.1.50\Projects\South Coast Water District\SCWD-2021-004 Reservoir 2B Design Services\300 Engineering\301 CAD\Plansets\G-001.dwg 02/17/22 3:32pm

FEBRUARY 2022 50% DESIGN SUBMITTAL–NOT FOR CONSTRUCTION



VICINITY MAP



LOCATION MAP

PROJECT CONTACTS

AGENCY	CONTACT PERSON	TELEPHONE NO.
SOUTH COAST WATER DISTRICT 31592 WEST STREET LAGUNA BEACH, CA 92651	TARYN KJOLSING	(949) 342–1154
SOUTH COAST WATER DISTRICT 31592 WEST STREET LAGUNA BEACH, CA 92651	BRYAN LYNN	(949) 289–0039
SOUTH COAST WATER DISTRICT 31592 WEST STREET LAGUNA BEACH, CA 92651	GREG PENNINGTON	(949) 795–4425

UTILITY AGENCY CONTACTS

AGENCY	CONTACT PERSON	TELEPHONE NO.
SDG&E– ELECTRIC 662 CAMINO DE LOS MARES SAN CLEMENTE, CA 92673	DOLPHUS DAVIS DDDAVIS@SDGE.COM	(949) 369–4721
USA		811

HORIZONTAL CONTROL

BENCH MARKS

FOUND 3 3/4" OCS ALUMINUM BENCHMARK DISK STAMPED "J 167 1933", SET IN THE NORTHEASTERLY CORNER OF CONCRETE BRIDGE IN A WINGWALL. MONUMENT IS LOCATED ALONG THE EASTERLY SIDE OF PCH, 2.15 MILES WESTERLY ALONG PCH FROM THE CENTERLINE OF CROWN VALLEY PARKWAY TO THE BRIDGE OVER ALISO CREEK, 44 FT. EASTERLY OF THE CENTERLINE OF PCH, 78 FT. NORTHEASTERLY OF THE CENTER OF THE BRIDGE AND 24 FT. NORTHERLY OF THE NORTHEASTERLY END OF THE EASTERLY GUARD RAIL ON THE BRIDGE. SET 0.3 FT. BELOW THE SURFACE OF THE HIGHWAY

ELEVATION: 32.779'

BASIS OF BEARINGS

THE BEARINGS SHOWN HEREON ARE BASED UPON GPS NO. 4829 & GPS NO. LGWD AS HAVING A BEARING OF N06°27'41"W.

BASIS OF COORDINATES

THE COORDINATES SHOWN HEREON ARE BASED UPON THE 2017.50 EPOCH, GPS NO. 4829.
N:2132181.93
E:6106171.20

ASSESSORS PARCEL NO.:

APN NO: 056-051-29, APN NO. 658-191-03 AND 658-191-04

LEGAL DESCRIPTION:

LOT 1 OF TRACT NO. 791, IN THE CITY OF LAGUNA BEACH, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS SHOWN ON A MAP FILED IN BOOK 31, PAGE 50, OF MISCELLANEOUS MAPS IN THE OFFICE OF THE COUNTY RECORDER OF ORANGE COUNTY, CALIFORNIA.

PROJECT ADDRESS:

CEANOTHUS DRIVE
LAGUNA BEACH, CA 92651

SHEET INDEX

SHEET NO.	DISCIPLINE	DESCRIPTION
GENERAL		
1	G001	COVER SHEET
2	G-002	VICINITY AND LOCATION MAPS, AGENCY CONTACTS AND SHEET INDEX
3	G-003	NOTES, ABBREVIATIONS AND LEGEND
4	G-004	EXISTING OVERALL SITE PLAN AND ACCESS ROAD SHEET INDEX
DEMOLITION		
5	D-001	EXISTING TANK DEMOLITION PLAN
CIVIL		
6	C-101	SITE GRADING AND PAVING PLAN
7	C-102	TANK SITE PIPING AND APPURTENANCE PLAN
8	C-501	INLET-OUTLET PIPING PLAN, SECTIONS AND DETAILS
9	C-502	TANK DETAILS -1
10	C-503	TANK DETAILS - 2
11	C-504	TANK DETAILS - 3
12	C-505	CIVIL DETAILS
13	C-801	ROAD AND DRAINAGE PLAN (STA 100+00 TO 109+00)
14	C-802	ROAD AND DRAINAGE PLAN (STA 109+00 TO 111+28)
STRUCTURAL		
15	S-100	STRUCTURAL GENERAL NOTES
16	S-101	SPECIAL INSPECTION TABLES
17	S-102	SPECIAL INSPECTION TABLES
18	S-200	SOLDIER PILE PLAN & SCHEDULE
19	S-201	SOLDIER PILE SECTIONS
20	S-300	RESERVOIR LAYOUT & ROOF PLAN
21	S-301	RESERVOIR SECTION
22	S-302	RESERVOIR DETAILS
ELECTRICAL		
23	E-001	ELECTRICAL SYMBOLS AND ABBREVIATIONS
24	E-100	SITE UTILITY SERVICE PLAN
25	E-101	SITE ELECTRICAL PLAN
26	E-102	SINGLE LINE DIAGRAM, PANEL AND CONDUIT SCHEDULES
27	E-103	NETWORK TELEMETRY DIAGRAMS
28	E-501	ELECTRICAL DETAILS - 1
29	E-502	ELECTRICAL DETAILS - 2
INSTRUMENTATION		
30	I-101	INSTRUMENTATION DIAGRAMS
31	I-102	INSTRUMENTATION DETAILS
CATHODIC PROTECTION		
32	CP-101	CATHODIC PROTECTION DETAILS 1
33	CP-102	CATHODIC PROTECTION DETAILS 2

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: FEBRUARY 2022
JOB NO.: 22-02-0019
DESIGN: TB, PA
DRAWN: RR
CHECKED: JN

REGISTERED PROFESSIONAL ENGINEER — RYAN GALLAGHER — No. C 74805 — Expires 12/31/22 — CIVIL — STATE OF CALIFORNIA

RYAN GALLAGHER	74805 RCE NO.	XX/XX/XX DATE
TANNER BENNETT	81334 RCE NO.	XX/XX/XX DATE

mkn
16310 Bake Parkway
Irvine, Ca. 92618
(714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
VICINITY AND LOCATION MAPS, AGENCY CONTACTS AND SHEET INDEX

G-002
SHEET 2 OF 33 SHEETS

50% DESIGN SUBMITTAL–NOT FOR CONSTRUCTION

DWG: \\192.168.1.50\Projects\South Coast Water District\SCWD-2021-004 Reservoir 2B Design Services\300 Engineering\301 CAD\Plotsets\G-002.dwg Layout Name: G-002 - Plotted by: Richard Robson Date: 4/12/2022 - 8:47 AM

SOUTH COAST WATER DISTRICT
WATER GENERAL CONSTRUCTION NOTES

1. THE DOMESTIC WATER SYSTEM AS SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SOUTH COAST WATER DISTRICT STANDARD SPECIFICATIONS AND STANDARD PLANS FOR WATER, SEWER, AND RECYCLED WATER FACILITIES, LATEST EDITION. THE CONTRACTOR SHALL KEEP A COPY OF THE STANDARD SPECIFICATIONS AND DRAWINGS ON THE JOB SITE AT ALL TIMES.
2. SIX COPIES OF THE APPROVED CONSTRUCTION PLANS SHALL BE FURNISHED TO THE DISTRICT ENGINEER AT LEAST SIX WORKING DAYS PRIOR TO REQUEST FOR INSPECTION.
3. PRIOR TO BACKFILL OPERATIONS, ALL FACILITIES SHALL BE INSPECTED BY THE SOUTH COAST WATER DISTRICT.
4. THE SCWD INSPECTION REPRESENTATIVE SHALL BE NOTIFIED AT LEAST SEVEN (7) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION. NO FACILITIES SHALL BE BACKFILLED UNTIL INSPECTED AND APPROVED BY SCWD.
5. ALL WATER VALVE COVERS SHALL BE INSTALLED FLUSH WITH THE FINISHED PAVEMENT.
6. ANY AND ALL SHUTDOWNS OF EXISTING WATERLINES TO FACILITATE CONNECTION TO EXISTING FACILITIES SHALL BE COORDINATED WITH THE SOUTH COAST WATER DISTRICT.
7. ALL TESTING AND DISINFECTIONS OF PIPING, VALVES, AND FITTINGS SHALL BE DONE PRIOR TO CONNECTION OF EXISTING MAINS PER DISTRICT STANDARD SPECIFICATIONS.
8. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT AS REQUIRED BY THE LOCAL AGENCY OR CITY OF LAGUNA BEACH.
9. INSTALLING CONTRACTOR SHALL BE ON THE SOUTH COAST WATER DISTRICT'S "APPROVED PRE-QUALIFIED LIST" AS LAST REVISED. CONTACT DISTRICT FOR CURRENT LIST.
10. SHOP DRAWINGS/CATALOG SUBMITTALS SHALL BE PROVIDED TO THE SOUTH COAST WATER DISTRICT FOR MATERIAL APPROVAL PRIOR TO INSTALLATION.
11. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT LEAST 48 HOURS BEFORE BEGINNING ANY CONSTRUCTION WORK.
12. THE CONTRACTOR SHALL MAINTAIN THE WORK AREAS IN A NEAT, SAFE, CLEAN AND SANITARY CONDITION AT ALL TIMES.
13. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE TRUE LOCATION AND DEPTH OF ALL UTILITIES AND SERVICE CONNECTIONS. THE CONTRACTOR SHALL ALSO DETERMINE THE TYPE OF MATERIAL AND CONDITION OF ANY UTILITIES WHICH MAY BE AFFECTED BY OR AFFECT THE WORK.
14. CONTRACTOR SHALL POTHOLE AND VERIFY DEPTH, LOCATION, AND DIMENSION OF EXISTING FACILITIES AND CONNECTION POINTS PRIOR TO SUBMITTING SHOP DRAWINGS.
15. CONTRACTOR SHALL PROTECT ALL ADJACENT STRUCTURES AND UTILITIES. EXCAVATIONS THAT EXTEND BELOW THE EDGE OF NEARBY ADJACENT EXISTING FACILITIES SHALL BE PROPERLY SHORED TO MAINTAIN FOUNDATION SUPPORT OF THE ADJACENT STRUCTURE.
16. CONTRACTOR SHALL PROTECT IN PLACE EXISTING SURVEY MONUMENTS DURING CONSTRUCTION. IF MONUMENTS ARE DISTURBED, CONTRACTOR SHALL SURVEY, RESET, AND RECORD NEW MONUMENT.
17. ALL FITTINGS FOR PIPE, SHALL BE DOMESTIC MADE ONLY.
18. ALL REQUIRED TESTING SHALL BE PERFORMED AND CERTIFIED BY A THIRD-PARTY AGENCY HIRED BY THE CONTRACTOR AND APPROVED BY THE DISTRICT. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE DISTRICT INSPECTOR, EXCEPT THAT BACTERIOLOGICAL TESTS SHALL BE PERFORMED BY THE DISTRICT. ALL CONSTRUCTED FACILITIES SHALL BE ISOLATED FROM THE EXISTING PUBLIC SYSTEM WHILE BEING TESTED BY MEANS OF A TEST PLATE OR PHYSICAL SEPARATION, AS DETERMINED BY THE DISTRICT INSPECTOR.

EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL PREPARE TEMPORARY STORM WATER POLLUTION CONTROL MEASURES IN ACCORDANCE WITH SPECIFICATION SECTION 01 57 23.
2. EROSION CONTROL MEASURES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHENEVER THE DAILY RAINFALL PROBABILITY EXCEEDS 40 PERCENT.
3. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY EROSION CONTROL DEVICES AT ALL TIMES.
4. CONTROLS SHALL BE SET UP AND MAINTAINED DURING CONSTRUCTION. ADJUSTMENTS TO THE EROSION CONTROL PLANS ARE ALLOWABLE AS REQUIRED AND APPROVED BY THE CITY OF LAGUNA BEACH, COUNTY OF ORANGE REGIONAL WATER QUALITY CONTROL BOARD & SOUTH COAST WATER DISTRICT.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL IMPLEMENT STRUCTURAL AND NONSTRUCTURAL BEST MANAGEMENT PRACTICES (BMPS) IN CONFORMANCE WITH THE GUIDELINES OF THE CALIFORNIA STORM WATER BMP HANDBOOKS.
6. AFTER A RAINSTORM, ALL SEDIMENT AND DEBRIS SHALL BE REMOVED FROM STREETS, CHECK BERMS AND DESILTING BASINS. ANY GRADED SLOPE SURFACE PROTECTION MEASURES DAMAGED DURING A RAINSTORM SHALL BE IMMEDIATELY REPAIRED.
7. THE PERMITTEE AND CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.

SURVEYORS NOTES:

THIS IS A TOPOGRAPHIC MAP AND NOT A BOUNDARY SURVEY BOUNDARY INFORMATION SHOWN HEREON IS RECORD DATA AS SHOWN ON TRACT NO. 8145, BOOK 329, PAGES 48 THROUGH 50, IN THE OFFICE OF THE COUNTY RECORDER OF ORANGE COUNTY CALIFORNIA.

THIS SURVEY DOES NOT PURPORT TO DISCLOSE EASEMENTS EXCEPT THOSE SPECIFICALLY DELINEATED HEREON, IF ANY. IF UNDERGROUND UTILITIES, OTHER STRUCTURES OR ZONES, SETBACK AND STREET WIDENING DATA ARE SHOWN HEREON, IT IS FOR INFORMATION ONLY, HAVING BEEN OBTAINED FROM OTHERS SOURCES NOT CONNECTED WITH THIS COMPANY. NO REPRESENTATION IS MADE AS TO THE ACCURACY OR COMPLETENESS OF SAID INFORMATION AND ANY USER OF THIS MAP IS URGED TO CONTACT THE UTILITY OR GOVERNING AGENCY DIRECTLY.

ABBREVIATIONS

AC	ASPHALT CONCRETE
ACP	ASBESTOS CEMENT PIPE
AFF	ABOVE FINISHED FLOOR
ALIGN	ALIGNMENT
APN	ASSESSOR'S PARCEL NUMBER
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AVE	AVENUE
AVG	AVERAGE
AWWA	AMERICAN WATER WORKS ASSOCIATION
BOP	BOTTOM OF PIPE
BC	BEGIN CURVE
BFLG	BLIND FLANGE
BFV	BUTTERFLY VALVE
BGS	BELOW GROUND SURFACE
BLDG	BUILDING
BLK	BLOCK
BTM	BOTTOM
BV	BALL VALVE
CB	CATCH BASIN
CL	CENTERLINE/CLASS
CLR	CLEAR
CMLC	CEMENT MORTAR LINED COATED
CMLP	CEMENT MORTAR LINED PAINTED
CMU	CEMENT MORTAR UNIT
CONC	CONCRETE
CONST	CONSTRUCT
COR	CORNER
CP/CP	CONTROL POINT/LOCAL CONTROL POINT
CPLG	COUPLING
CR	CLEANING RETURN
D	DRAIN
DCV	DIAPHRAGM CHECK VALVE
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DN	DOWN
DW	DOMESTIC WATER
DWG.	DRAWING
E	EAST/EASTING/ELECTRICAL
EA	EACH
EC	END CURVE
EG	EXISTING GROUND
EL&C	EPOXY LINED AND COATED
EL/ELEV	ELEVATION
ELEC	ELECTRIC
ELL	ELBOW
EQ	EQUAL
ESMT	EASEMENT
EVC	END VERTICAL CURVE
(E) EXIST	E, EXISTING
FS	FINISHED SURFACE
FG	FINISHED GRADE
FL	FLOW LINE
FLG	FLANGED
FNC	FENCE
FS	FINISHED SURFACE
FT	FEET
GA	GAUGE
GAL	GALLON
GB	GRADE BREAK
GLV	GLOBE VALVE
GOE	GROOVE ONE END
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HORIZ	HORIZONTAL
HP	HIGH PRESSURE
HYD	HYDRAULICALLY
ID	INSIDE DIAMETER
INT	INTERSECTION
INV	INVERT
KW	KILOWATT
LF	LINEAR FEET
LR	LONG RADIUS
LB	POUND
LIT	LEVEL INDICATING TRANSMITTER
LPF	LOW PRESSURE FEED
MAX	MAXIMUM
MG	MILLIONS OF GALLONS
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
MON	MONUMENT
NTS	NOT TO SCALE
NO	NUMBER
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OVERFLOW
OP	OPERATING
P	PUMP
PAV	PAVEMENT
PCC	PORTLAND CEMENT CONCRETE OR POINT OF COMPOUND CURVES
PCP	PROCESS CONTROL PANEL
PCV	PRESSURE CONTROL VALVE
PDIT	PRESSURE DIFFERENTIAL INDICATING TRANSMITTER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PSI	POUNDS PER SQUARE INCH
PT	POINT
PVC	POLYVINYL CHLORIDE
R/W	RIGHT OF WAY
RD	ROAD
RED	REDUCER
S	SLOPE
SCH	SCHEDULE
SCV	SWING CHECK VALVE
SCWD	SOUTH COAST WATER DISTRICT
SD	STORM DRAIN
SDG&E	SAN DIEGO GAS AND ELECTRIC
SS	STAINLESS STEEL
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STL	STEEL
SV	SAMPLE VALVE
T	TANK
TB	THRUST BLOCK
TC	TOP OF CURB/TOP OF CONCRETE
TOP	TOP OF PIPE
TW	TOP OF WALL
TDH	TOTAL DYNAMIC HEAD
TYP	TYPICAL
VBV	VACUUM BREAKER VALVE
VERT	VERTICAL
VT	VAULT
VTR	VENT TO ROOF
WTR	WATER
WV	WATER VALVE

LEGEND

- 1 / C-6 — DETAIL NUMBER / SHEET NUMBER
- RIGHT-OF-WAY
- CURB & GUTTER
- W — WATER
- S — SEWER
- STORM DRAIN
- E — E — E — ELECTRICAL DUCT
- BLOCK WALL
- X — X — CHAIN LINK FENCE
- EASEMENT
- EDGE OF EXISTING PAVEMENT
- BLOW-OFF
- CENTERLINE
- REDUCER
- PLUG AND THRUST BLOCK
- AIR/VACUUM VALVE
- VALVE
- TRAFFIC DIRECTION ARROW
- FLOW ARROW
- AC PAVEMENT
- PCC
- LANDSCAPING
- RIP-RAP

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DATE: FEBRUARY 2022 | DESIGN: TB, PA
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REGISTERED PROFESSIONAL ENGINEER — RYAN GALLAGHER — No. C 74805 — Expires 12/31/22 — CIVIL — STATE OF CALIFORNIA

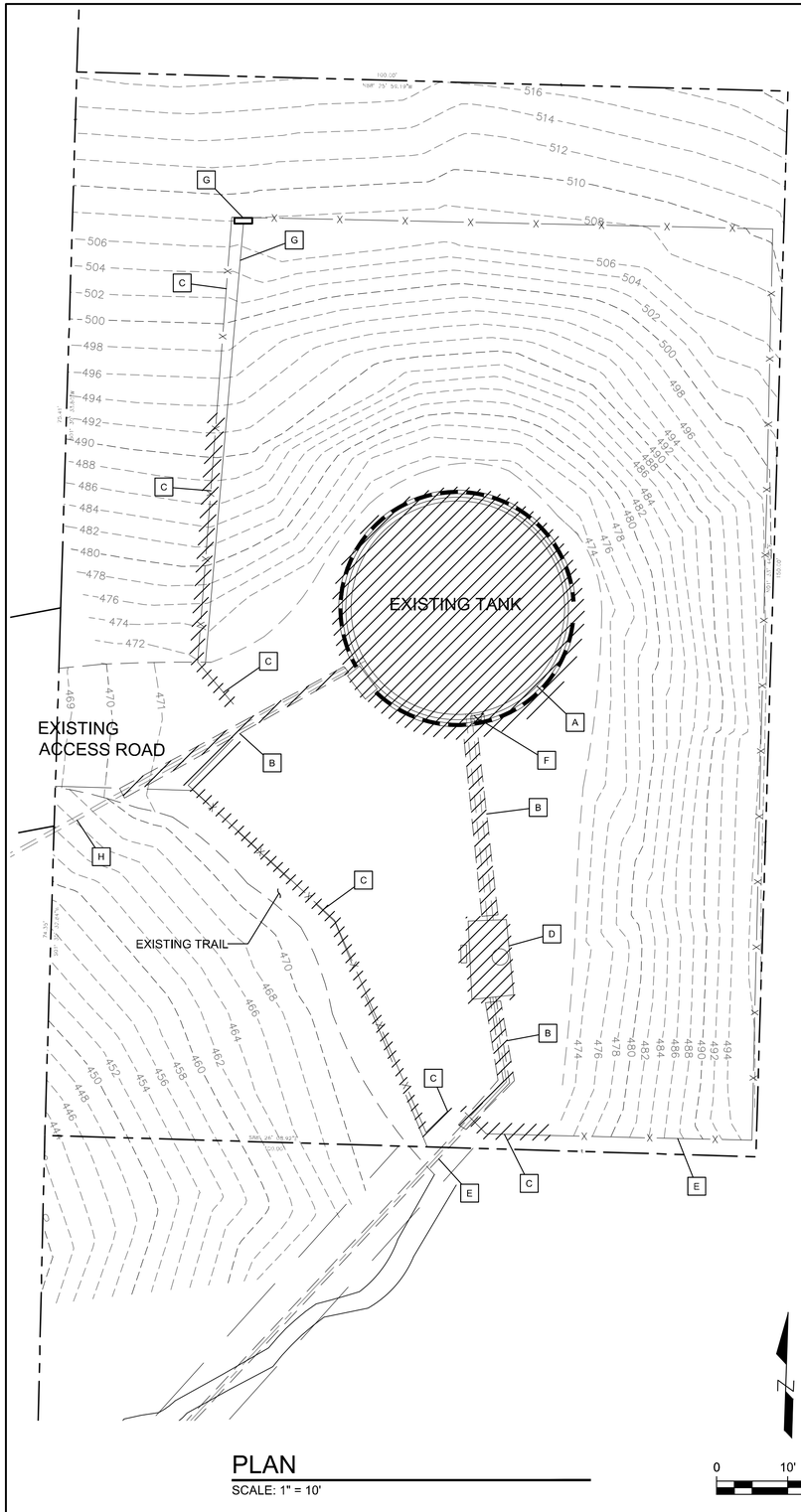
RYAN GALLAGHER — 74805 — RCE NO. — XX/XX/XX — DATE
TANNER BENNETT — 81334 — RCE NO. — XX/XX/XX — DATE

mkn
16310 Bake Parkway
Irvine, Ca. 92618 (714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
NOTES, ABBREVIATIONS AND LEGEND

G-003
SHEET 3 OF 33 SHEETS

DWG: I:\192.168.1.5\Projects\South Coast Water District\SCWD-2021-004 Reservoir 2B Design Services\300 Engineering\301 CAD\Plansets\G-003.dwg Layout Name: G-003 - Plotted by: Richard Robson Date: 2/17/2022 - 3:39 PM



PLAN
SCALE: 1" = 10'

0 10' 20'

GENERAL NOTES:

1. LOCATION OF EXISTING STRUCTURES, EQUIPMENT,AND PIPING WERE OBTAINED FROM FIELD OBSERVATIONS. CONTRACTOR TO CONFIRM LOCATIONS OF EXISTING FACILITIES PRIOR TO BEGINNING WORK IN THIS AREA.
2. STRUCTURES, EQUIPMENT AND PIPING THAT ARE TO REMAIN IN SERVICE SHALL BE PROTECTED IN PLACE.
3. COORDINATE ALL DEMOLITION WORK WITH THE DISTRICT ENGINEER.
4. REFER TO SPEC SECTION 02 41 00 FOR ASBESTOS CEMENT PIPE REMOVAL REQUIREMENTS.

DEMOLITION NOTES:

A. REMOVE AND DISPOSE OF ABOVE GROUND STEEL WATER TANK, CONCRETE RINGWALL AND ASSOCIATED PIPING AND APPURTENANCES.

B. REMOVE AND DISPOSE OF INLET/OUTLET PIPING AND DRAIN LINE.

C. REMOVE AND DISPOSE OF FENCE AND GATE.

D. REMOVE AND DISPOSE OF UNDERGROUND VALVE VAULT, PIPING, VALVES AND ASSOCIATED APPURTENANCES.

E. PROTECT IN PLACE EXISTING PIPING AND FENCE.

F. REMOVE AND SALVAGE EXISTING ELECTRICAL EQUIPMENT, PANEL AND CONNECTIONS AND RETURN TO THE DISTRICT.

G. REMOVE AND DISPOSE OF EXISTING ANTENNA, ELECTRIC PANEL AND CONDUIT.

H. ABANDON IN PLACE EXISTING 6" DRAIN LINE, CUT AND CAP SEE DETAIL X-X, SHEET X-X

DEMOLITION LEGEND:

DEMOLITION

SALVAGE

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

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RYAN GALLAGHER	74805 RCE NO.	XX/XX/XX DATE
TANNER BENNETT	81334 RCE NO.	XX/XX/XX DATE

mkn
16310 Bake Parkway
Irvine, Ca. 92618 (714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
EXISTING TANK DEMOLITION PLAN

D-001
SHEET 5 OF 33 SHEETS

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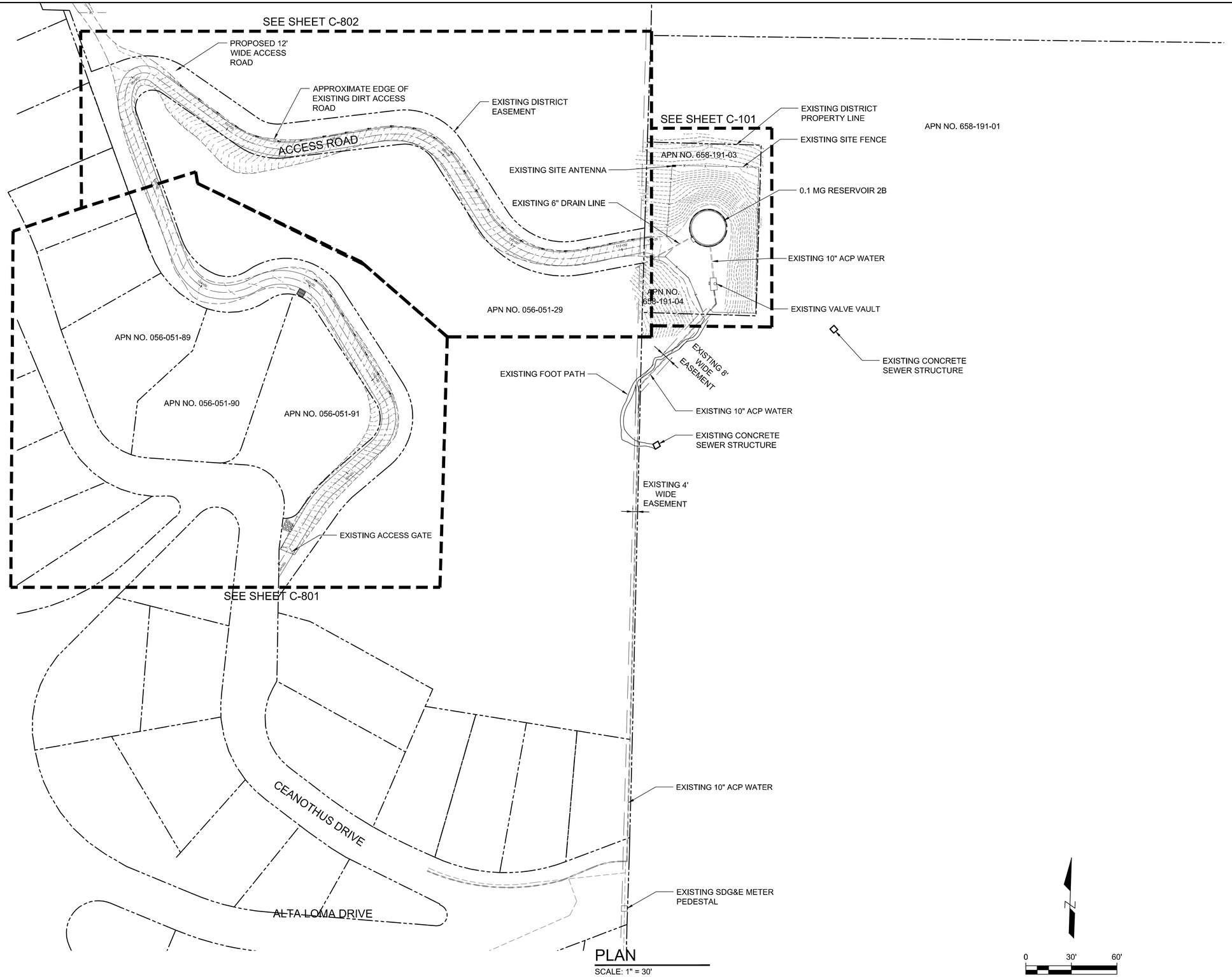

PLAN

SCALE: 1" = 30'

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: FEBRUARY 2022
JOB NO.: 22-02-0019
DESIGN: TB, PA
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PROFESSIONAL ENGINEER — RYAN GALLAGHER — No. C 74805 — Expires 12/31/22 — CIVIL — STATE OF CALIFORNIA

RYAN GALLAGHER	74805 RCE NO.	XX/XX/XX DATE
TANNER BENNETT	81334 RCE NO.	XX/XX/XX DATE

mkn
16310 Bake Parkway
Irvine, Ca. 92618 (714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
EXISTING OVERALL SITE PLAN AND ACCESS ROAD SHEET INDEX

G-004
SHEET 4 OF 33 SHEETS

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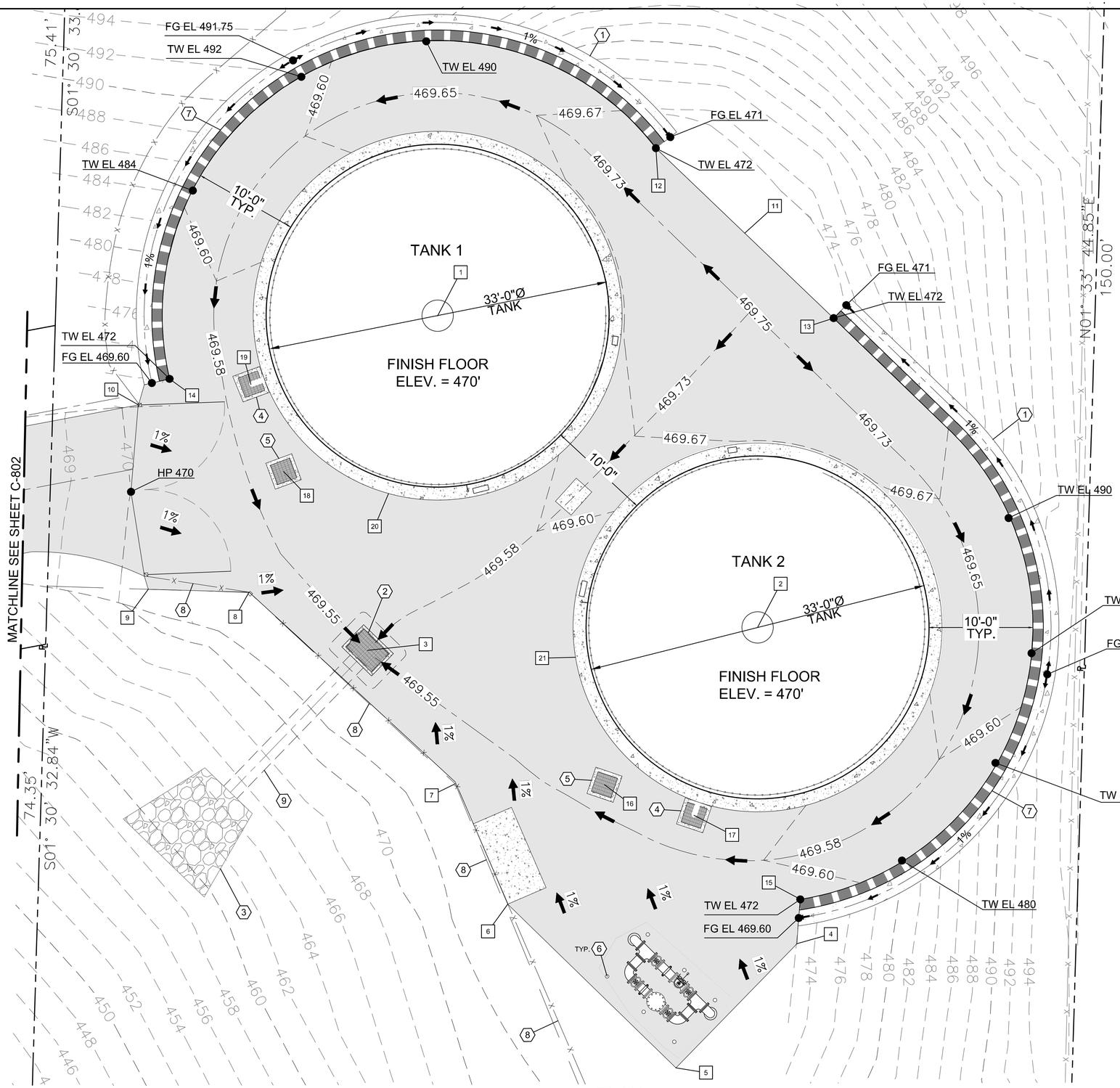

PLAN

SCALE: 1" = 5'

SITE CONTROL DATA

MARK	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	2131993.24	6105908.88	470.00	CENTER OF TANK 1
2	2131963.23	6105939.68	470.00	CENTER OF TANK 2
3	2131961.03	6105902.14	469.50	TOP OF CATCH BASIN
4	2131932.77	6105943.46	469.70	EDGE OF AC PAVING
5	2131920.83	6105931.82	469.86	EDGE OF AC PAVING
6	2131936.59	6105915.65	469.86	EDGE OF AC PAVING
7	2131948.18	6105910.58	469.86	EDGE OF AC PAVING
8	2131966.59	6105890.72	469.86	EDGE OF AC PAVING
9	2131966.91	6105881.03	470.00	EDGE OF AC PAVING
10	2131984.66	6105880.09	470.00	EDGE OF AC PAVING
11	2132001.20	6105938.44	471.00	EDGE OF AC PAVING
12	2132009.38	6105929.89	471.00	EDGE OF RETAINING WALL
13	2131993.01	6105947.00	471.00	EDGE OF RETAINING WALL
14	2131987.17	6105883.08	469.60	EDGE OF RETAINING WALL
15	2131937.05	6105943.79	469.60	EDGE OF RETAINING WALL
16	2131948.08	6105924.95	469.59	TOP OF CATCH BASIN
17	2131948.08	6105924.95	469.59	TOP OF CATCH BASIN
18	2131978.25	6105894.05	469.59	TOP OF CATCH BASIN
19	2131986.64	6105890.92	469.59	TOP OF CATCH BASIN
20	2131976.13	6105904.14	470.00	TOP OF TANK RING 1
21	2131960.31	6105922.17	470.00	TOP OF TANK RING 2

KEYNOTES

1. CONCRETE DRAINAGE V-DITCH, SEE DETAIL X, SHEET X
2. CATCH BASIN, SEE DETAIL X, SHEET X
3. ENERGY DISSIPATOR, SEE DETAIL X, SHEET X
4. CATCH BASIN, SEE DETAIL X, SHEET X
5. CATCH BASIN, SEE DETAIL X, SHEET X
6. PROTECTION POST, SEE DETAIL X-X, SHEET X-X
7. RETAINING WALL, SEE DETAILS ON SHEET S-201.
8. 8' HIGH CHAIN LINK FENCE AND GATE TO MATCH EXISTING, SEE DETAIL X-X, SHEET X-X.
9. SITE DRAIN PIPE, SEE DETAIL X, SHEET X-X.

N

0 5' 10'

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: FEBRUARY 2022
JOB NO.: 22-02-0019
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DRAWN: RR
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RYAN GALLAGHER	74805 RCE NO.	XX/XX/XX DATE
TANNER BENNETT	81334 RCE NO.	XX/XX/XX DATE

mkn
16310 Bake Parkway
Irvine, Ca. 92618 (714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
SITE GRADING AND PAVING PLAN

C-101
SHEET 6 OF 33 SHEETS

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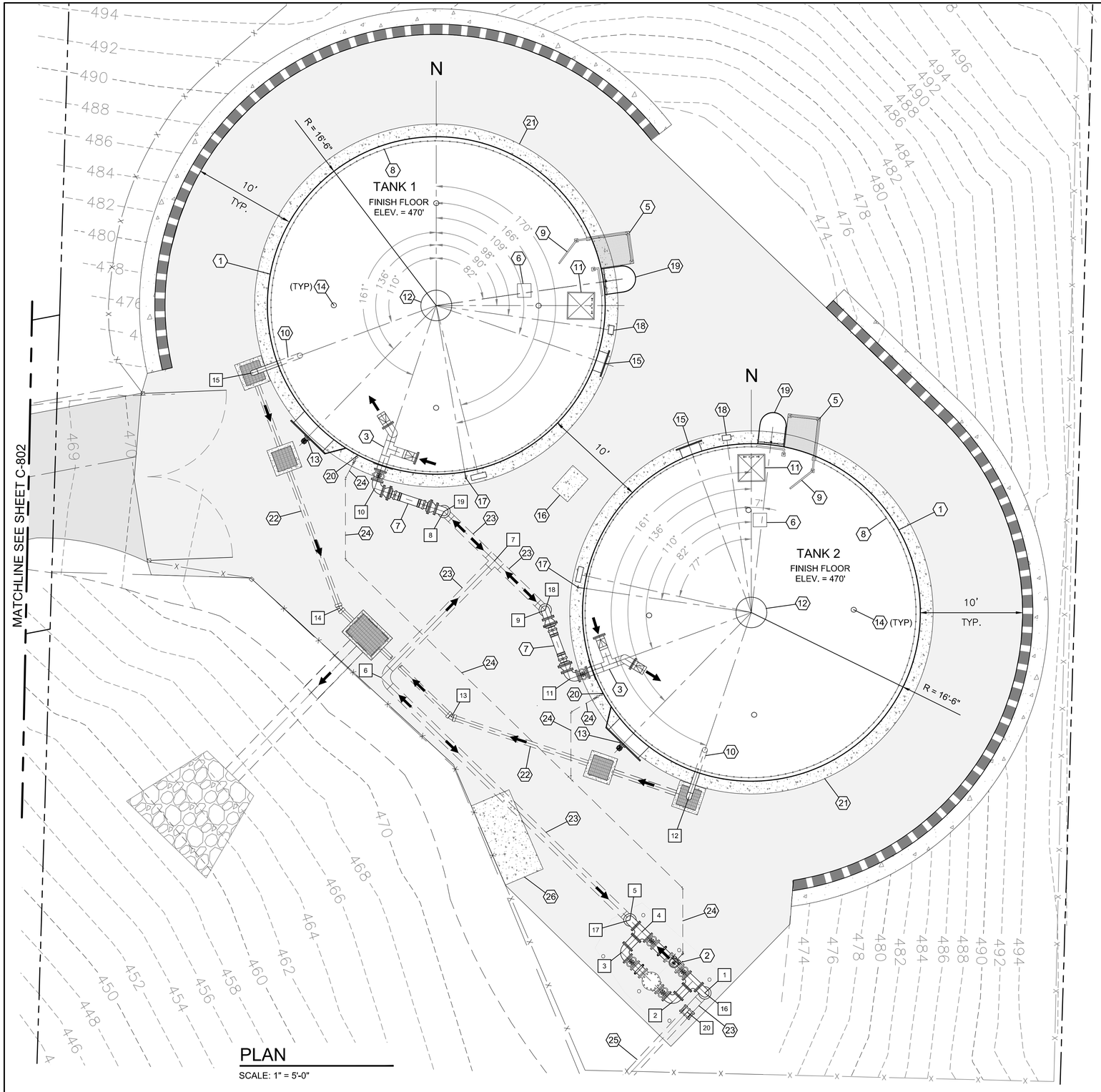

PLAN

SCALE: 1" = 5'-0"

PIPING CONTROL DATA

MARK	NORTHING	EASTING	DESCRIPTION
1	2131922.04	6105935.14	℄ OF 10" 90° VERTICAL DI BEND
2	2131921.17	6105931.98	∠ OF 10" 90° HORIZONTAL DI BEND
3	2131930.00	6105923.02	∠ OF 10" 90° HORIZONTAL DI BEND
4	2131932.03	6105924.99	∠ OF 10" 90° HORIZONTAL DI TEE
5	2131933.18	6105923.81	℄ OF 10" 90° VERTICAL DI BEND
6	2131956.88	6105903.48	∠ OF 10" 90° HORIZONTAL STL CMLC BEND
7	2131968.24	6105914.58	∠ OF 10" 90° HORIZONTAL STL CMLC TEE
8	2131973.10	6105909.64	℄ OF 10" 90° VERTICAL DI BEND
9	2131963.47	6105919.53	℄ OF 10" 90° VERTICAL DI BEND
10	2131975.36	6105902.86	∠ OF 10" 90° HORIZONTAL DI BEND
11	2131956.75	6105921.97	∠ OF 10" 90° HORIZONTAL DI BEND
12	2131945.17	6105933.57	℄ OF 10" 90° VERTICAL DI BEND
13	2131953.03	6105910.36	∠ OF 10" 22.50° HORIZONTAL STL BEND
14	2131963.66	6105899.44	∠ OF 10" 22.50° HORIZONTAL STL BEND
15	2131986.66	6105890.98	℄ OF 10" 90° VERTICAL DI BEND
16	2131922.04	6105935.14	℄ OF 10" 90° VERTICAL STL BEND
17	2131933.18	6105923.81	℄ OF 10" 90° VERTICAL STL BEND
18	2131963.47	6105919.53	℄ OF 10" 90° VERTICAL STL BEND
19	2131973.10	6105909.64	℄ OF 10" 90° VERTICAL STL BEND
20	2131924.18	6105933.40	℄ OF 10" TRANSITION COUPLING

KEYNOTES

1. 100,000 GALLON AWWA D100 WELDED STEEL TANK. (TYP) SIDE WATER DEPTH=17'-0", OVERFLOW DEPTH = 17'-6"
2. INLET/OUTLET PIPING, ALTITUDE VALVE AND OUTLET CHECK VALVE SEE DETAIL X-X, SHEET X-X
3. INLET/OUTLET MANIFOLD, SEE DETAIL 1 , C-501
4. 10"Ø INLET/OUTLET PIPE, TIE INTO EXISTING SEE DETAIL X-X, SHEET X-X
5. TANK ACCESS PLATFORM, SEE STRUCTURAL DRAWINGS
6. TANK LEVEL SENSOR, SEE DETAIL X-X, SHEET X-X
7. 10" FORCE BALANCED FLEXIBLE COUPLING
8. GUARD RAILING ALONG ENTIRE PERIMETER OF THE RESERVOIR ROOF, SEE DETAIL X-X, SHEET X-X
9. SELF-CLOSING GATE, LADDER CAGE EXTENSION, AND PLATFORM AT TERMINATION OF LADDER AT ROOF LEVEL SEE DETAIL X-X, SHEET X-X
10. 10-INCH OVERFLOW PIPING, SEE DETAIL X-X, SHEET X-X
11. 2'-6" SQ. ROOF HATCH, SEE DETAIL X-X, SHEET X-X
12. 36"Ø TANK VENT, SEE DETAIL X-X, SHEET X-X
13. FLUSH TYPE CLEANOUT MANHOLE, SEE DETAIL X-X, SHEET X-X
14. AWWA STANDARD 5-INCH ANODE HANDHOLE, SEE DETAIL X-X, SHEET X-X
15. TANK SHELL ACCESS, SEE DETAIL X-X, SHEET X-X
16. ELECTRICAL PULL BOX CONCRETE PAD, SEE DETAIL X-X SHEET X-X
17. TANK LEVEL INDICATOR
18. CORROSION PROTECTION SYSTEM, SEE DETAIL X-X, SHEET X-X
19. EXTERIOR LADDER WITH FALL PROTECTION SYSTEM, SEE DETAIL X-X, SHEET X-X
20. ALTITUDE VALVE CONNECTION, SEE DETAIL X-X, SHEET X-X
21. CONCRETE TANK RINGWALL, SEE STRUCTURAL DRAWINGS
22. 10" PVC DRAIN LINE, SEE DETAIL X-X, SHEET X-X
23. 10" STL CMLC INLET /OUTLET PIPE
24. 3/4" SCH 80 NPT PIPE FOR ALTITUDE VALVE CONNECTION
25. EXISTING 10" ACP PIPE
26. ELECTRICAL EQUIPMENT PAD. SEE DETAIL X SHEET X-X.

N

0 4' 8'

1/4" = 1'-0

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

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mkn
16310 Bake Parkway
Irvine, Ca. 92618 (714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
TANK SITE PIPING AND APPURTENANCE PLAN

C-102
SHEET 7 OF 33 SHEETS

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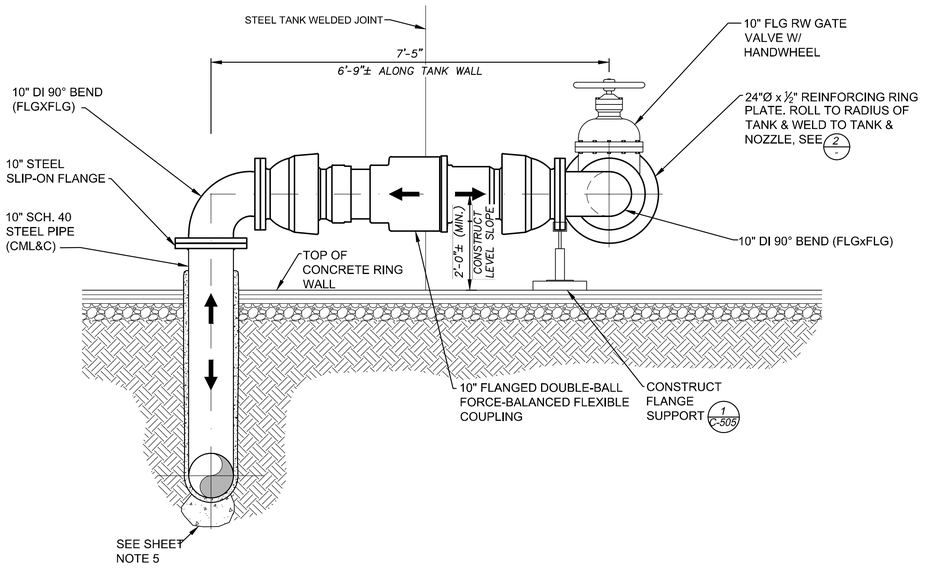
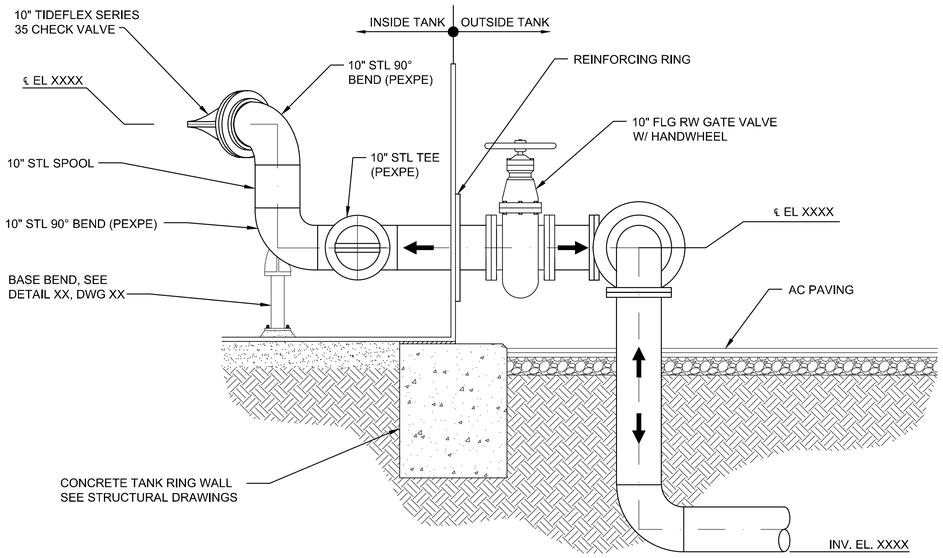


SECTION A
SCALE: 3/4"=1'-0"



NOTE:

VIEW IS REVERSED FOR THE OTHER TANK

SECTION B
SCALE: 3/4"=1'-0"

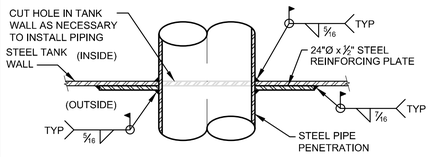
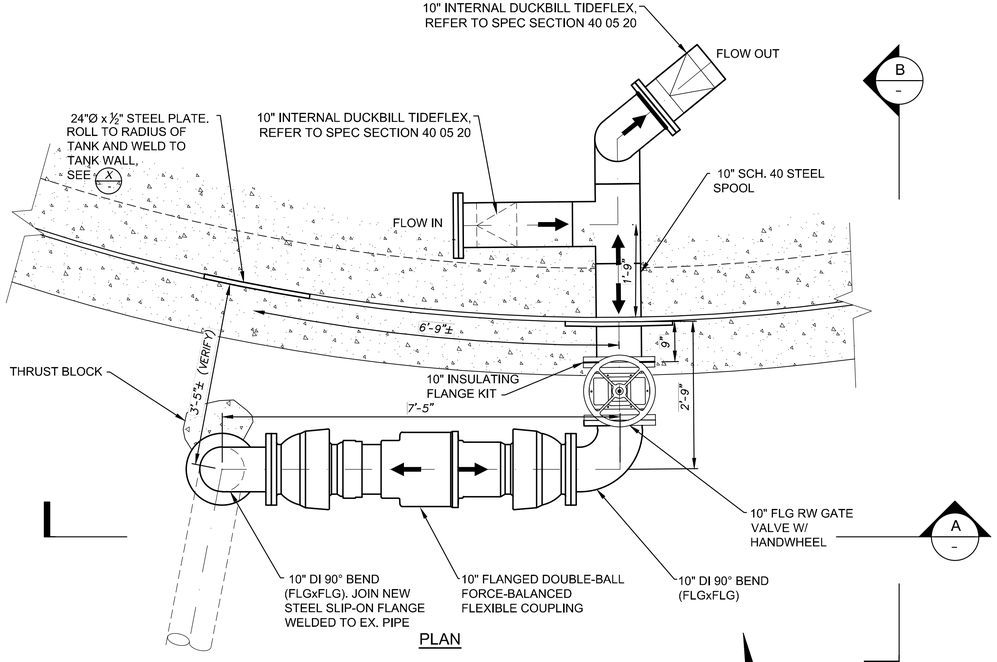


PLATE DETAIL
NO SCALE — 2/XX



PLAN

10-INCH INLET/OUTLET PIPE DETAIL
SCALE: 3/4"=1'-0" — 1/-

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mkn
16310 Bake Parkway
Irvine, Ca. 92618 (714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
INLET-OUTLET PIPING PLAN, SECTIONS AND DETAILS

C-501
SHEET 8 OF 33 SHEETS

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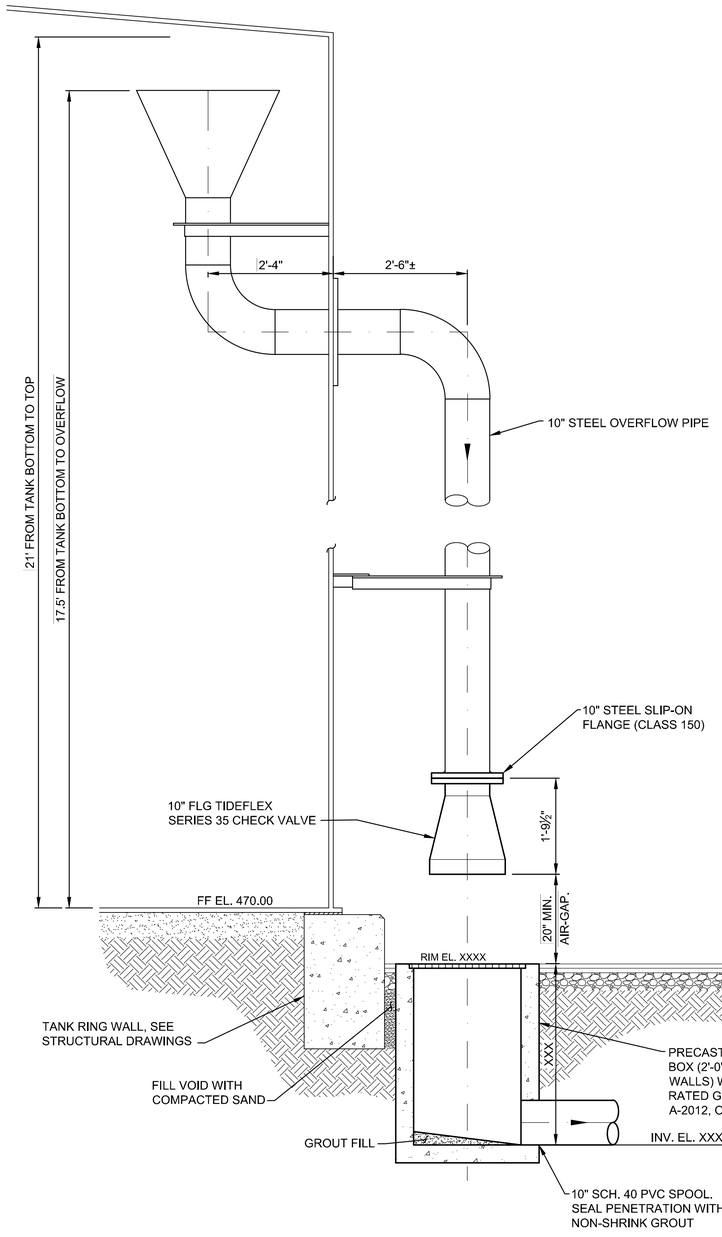
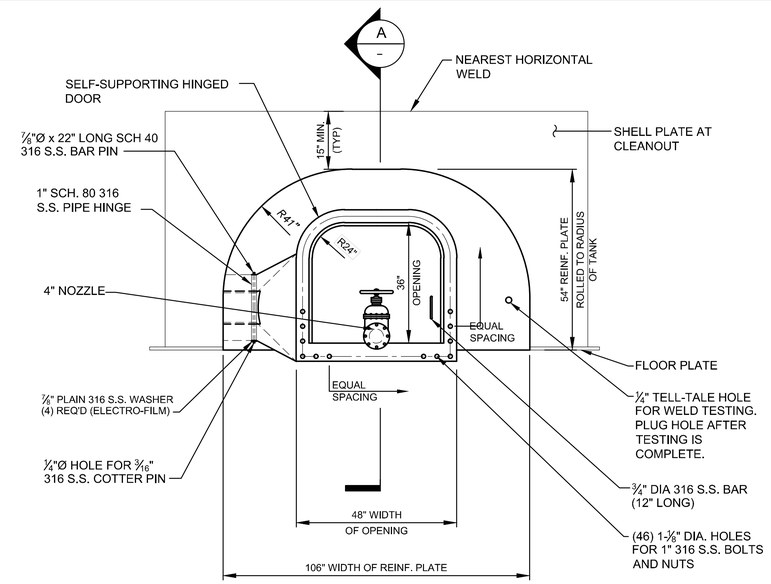


10-INCH OVERFLOW PIPE DETAIL

SCALE: 3/4"=1'-0"

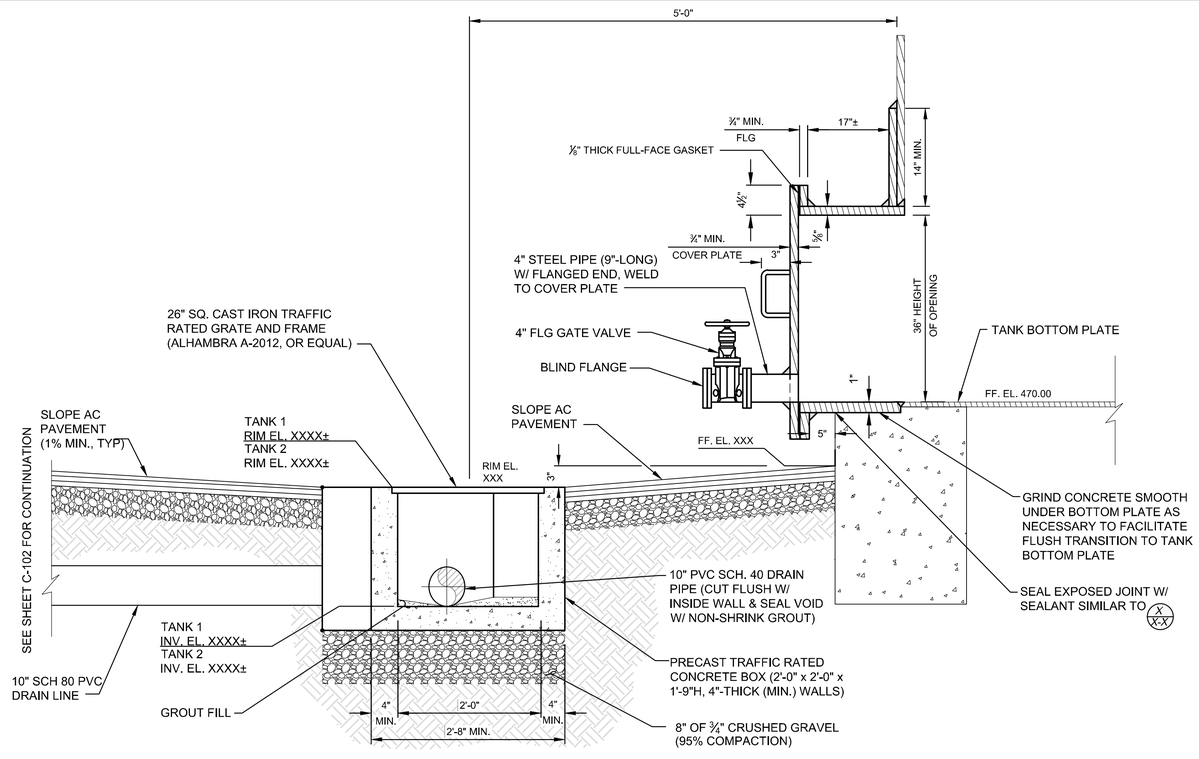
1 / XXX



FLUSH TYPE CLEANOUT MANHOLE

SCALE: 3/4"=1'-0"

2 / XXX



CLEANOUT MANHOLE SECTION

SCALE: 3/4"=1'-0"

A / -

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: FEBRUARY 2022 | DESIGN: TB, PA
JOB NO.: 22-02-0019 | DRAWN: RR
CHECKED: JN

REGISTERED PROFESSIONAL ENGINEER — RYAN GALLAGHER — No. C 74805 Expires 12/31/22 — CIVIL — STATE OF CALIFORNIA

RYAN GALLAGHER	74805 RCE NO.	XX/XX/XX DATE
TANNER BENNETT	81334 RCE NO.	XX/XX/XX DATE

mkn
16310 Bake Parkway
Irvine, Ca. 92618 (714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
TANK DETAILS -1

C-502
SHEET 9 OF 33 SHEETS

50% DESIGN SUBMITTAL–NOT FOR CONSTRUCTION

DWG: I:\192.165..\5\Projects\South Coast Water District\SCWD-2021-004 Reservoir 2B Design Services\300 Engineering\301 CAD\Plansets\C-502.dwg Layout Name: C-502 - Plotted by: Richard Robson Date: 2/17/2022 - 3:34 PM

RESERVED FOR LADDER AND
PLATFORM DETAILS

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: *FEBRUARY 2022*
JOB NO.: 22-02-0019
DESIGN: TB, PA
DRAWN: RR
CHECKED: JN

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TANNER BENNETT	81334 RCE NO.	XX/XX/XX DATE

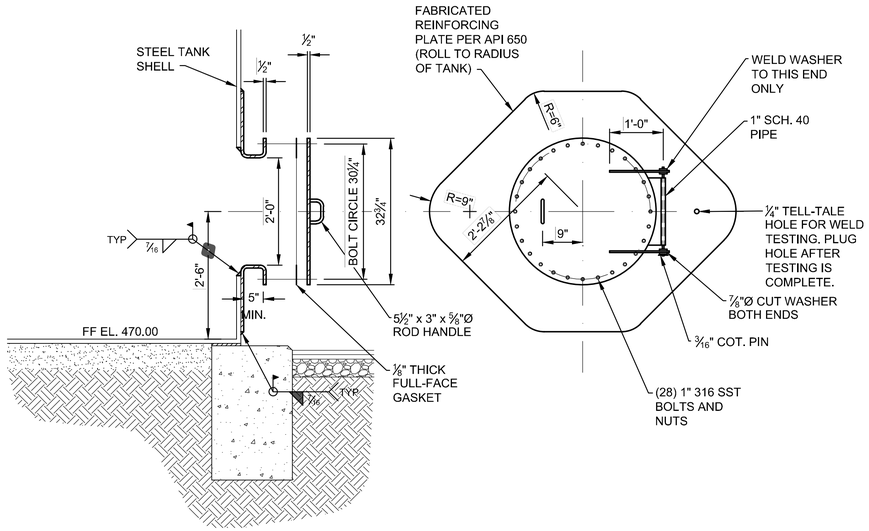
mkn
16310 Bake Parkway
Irvine, Ca. 92618 (714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
TANK DETAILS - 2

C-503
SHEET 10 OF 33 SHEETS

50% DESIGN SUBMITTAL-NOT FOR CONSTRUCTION

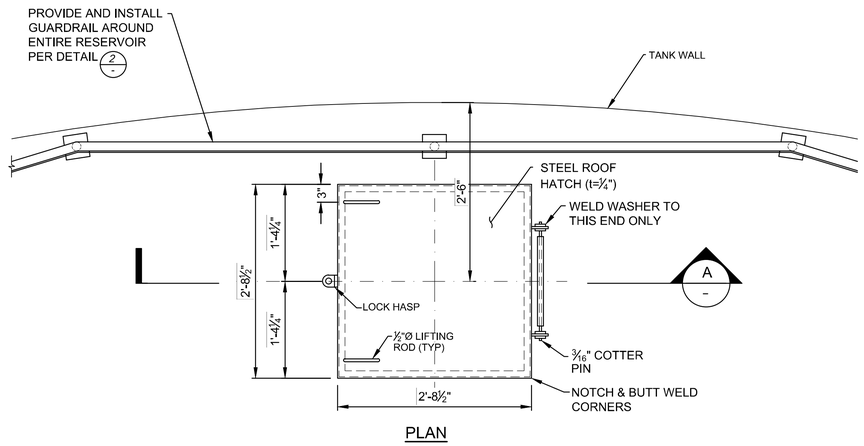
DWG: \\192.168.1.50\Projects\South Coast Water District\SCWD-2021-004 Reservoir 2B Design Services\300 Engineering\301 CAD\Plansets\C-503.dwg Layout Name: C-503 - Plotted by: Richard Robbon Date: 2/17/2022 - 3:33 PM



SIDEWALL MANWAY ACCESS

SCALE: 1"=1'-0"

1 / -

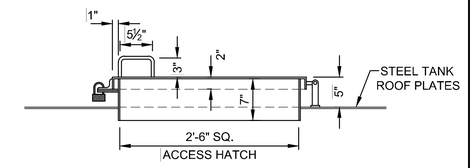


PLAN

ROOF HATCH DETAIL

SCALE: 1"=1'-0"

2 / -



SECTION

SCALE: 1"=1'-0"

A / -

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: FEBRUARY 2022
JOB NO.: 22-02-0019
DESIGN: TB, PA
DRAWN: RR
CHECKED: JN

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TANNER BENNETT	81334 RCE NO.	XX/XX/XX DATE

mkn
16310 Bake Parkway
Irvine, Ca. 92618
(714) 213-9758

SOUTH COAST WATER DISTRICT

RESERVOIR 2B REPLACEMENT PROJECT

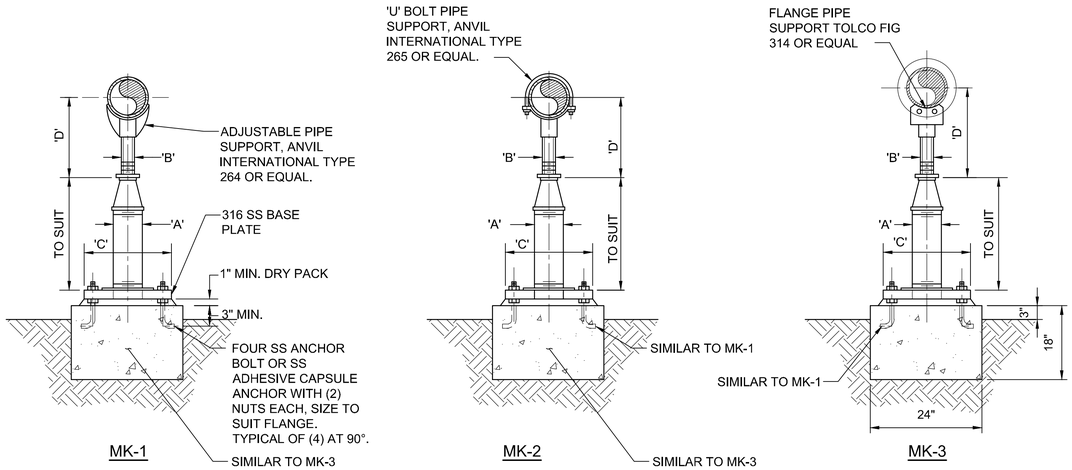
TANK DETAILS - 3

C-504

SHEET 11 OF 33 SHEETS

50% DESIGN SUBMITTAL-NOT FOR CONSTRUCTION

DWG: I:\192.168.1.5\Projects\South Coast Water District\SCWD-2021-004 Reservoir 2B Design Services\300 Engineering\301 CAD\Planset\C-504.dwg Layout Name: C-504 - Plotted by: Richard Robson Date: 2/17/2022 - 3:33 PM



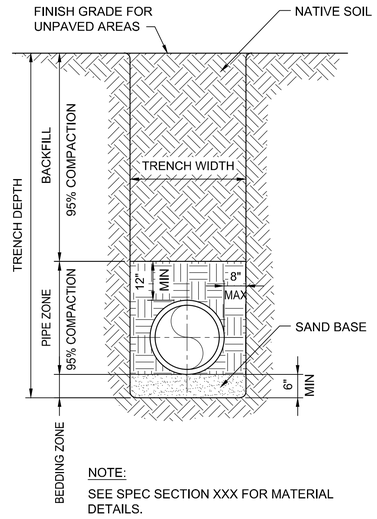
NOTES:

1. HOT DIP GALVANIZE AFTER FABRICATION AND TOUCH-UP WITH COLD GALVANIZING COMPOUND AFTER INSTALLATION.
2. PROVIDE STAINLESS STEEL UNITS AS INDICATED BY NOTE ON SPECIFIC DRAWING.
3. PIPE SUPPORT MK-1, MK-2 AND MK-3 TO BE USED WITH CONCRETE PEDESTAL DETAIL 4, THIS SHEET WHEN EQUIPMENT SLAB IS NOT AVAILABLE.
4. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL PIPING SYSTEMS SHOWN ON THE DESIGN DRAWINGS INCLUDING ALL APPURTENANCES ARE FULLY SUPPORTED AGAINST ALL FORCES. CONTRACTOR SHALL SUBMIT ALL SUPPORTING CALCULATIONS STAMPED BY A CIVIL/STRUCTURAL REGISTERED ENGINEER.

ADJUSTABLE PIPE SUPPORT
APPROX DIMENSIONS IN INCHES

PIPE SIZE	A	B	C	D MIN.	MAX.
3	2 1/2	1 1/2	9	8 1/4	11 3/4
3 1/2	2 1/2	1 1/2	9	8 1/2	
4	3	2 1/2	9	10 1/4	
6	3	2 1/2	9	11 5/8	15 1/4
8	3	2 1/2	9	13 5/8	16 1/2
10	3	2 1/2	9	14 5/8	18 1/4

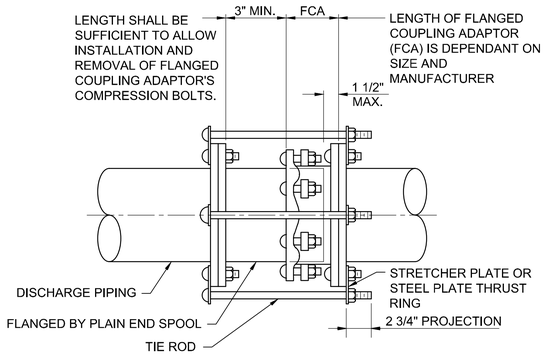
ADJUSTABLE PIPE SUPPORT DETAIL 1
NO SCALE



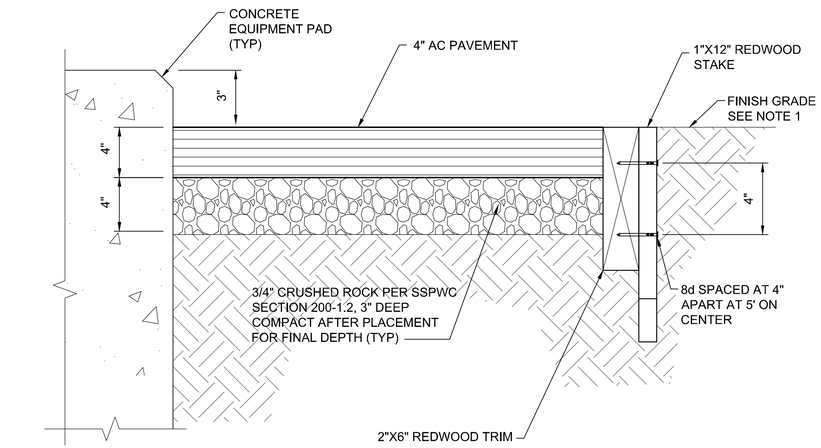
NOTE:

SEE SPEC SECTION XXX FOR MATERIAL DETAILS.

PIPE BEDDING AND TRENCH BACKFILL DETAIL 2
NO SCALE



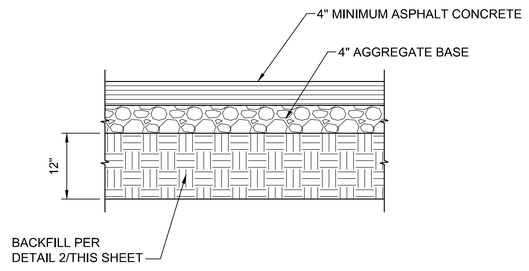
FLANGED COUPLING ADAPTER 3
NO SCALE



NOTE:

1. DISTANCE BETWEEN TOP OF GRAVEL AND TOP OF CONCRETE SHALL BE AS SHOWN UNLESS NOTED OTHERWISE ON SHEET C-6.
2. FINISH GRADE TO SLOPE AWAY FROM GRAVEL BED AT 1% MINIMUM.

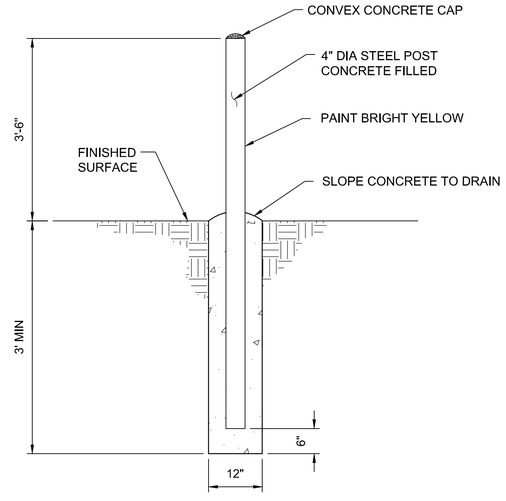
GRAVEL BED AND REDWOOD HEADER DETAIL 4
NO SCALE



NOTE:

ASPHALT CONCRETE SHOULD BE 1" THICKER THAN EXISTING. MATCH ALL OTHER EXISTING CONDITIONS.

NEW ASPHALT DETAIL 5
NO SCALE



PROTECTION POST DETAIL 6
NO SCALE

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

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RYAN GALLAGHER	74805 RCE NO.	xx/xx/xx DATE
TANNER BENNETT	81334 RCE NO.	xx/xx/xx DATE

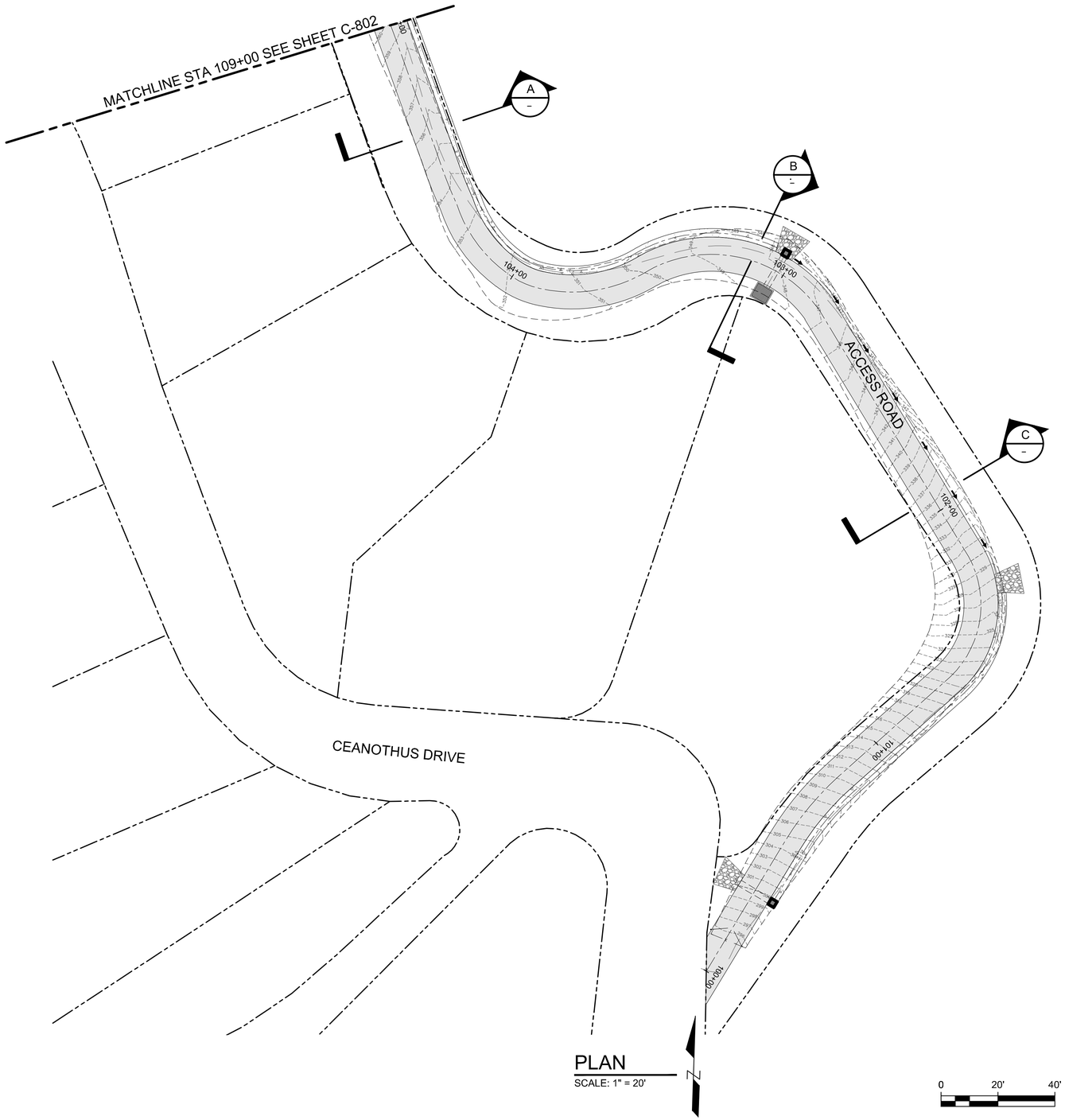
mkn
16310 Bake Parkway
Irvine, Ca. 92618
(714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
CIVIL DETAILS

C-505
SHEET 12 OF 33 SHEETS

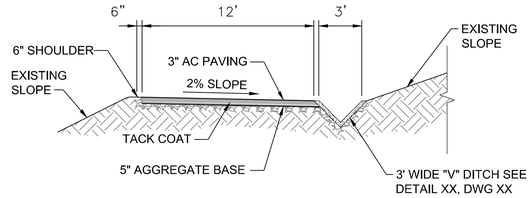
50% DESIGN SUBMITTAL–NOT FOR CONSTRUCTION

DWG: \\192.168.1.50\Projects\South Coast Water District\SCWD-2021-004 Reservoir 2B Design Services\300 Engineering\301 CAD\Plansets\C-505.dwg Layout Name: C-505 - Plotted by: Richard Robison Date: 2/17/2022 - 3:33 PM



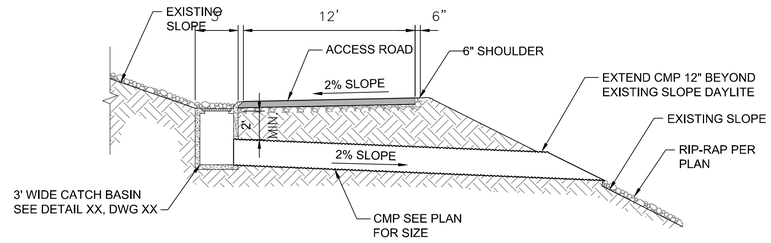
PLAN
SCALE: 1" = 20'

0 20' 40'



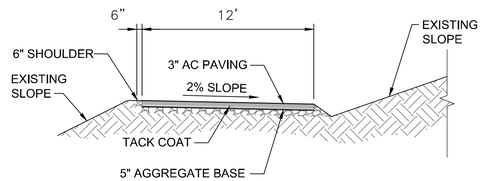
ROAD SECTION STA 100+25 TO STA 101+50- STA 103+02 TO STA 105+60
SCALE: 1" = 5'

A - C-802



CULVERT SECTION
SCALE: 1" = 5'

B -



ROAD SECTION STA 101+75 TO STA 103+02
SCALE: 1" = 5'

C -

LEGEND

- PROPOSED 12' WIDE ASPHALT ACCESS ROAD
- PROPOSED 3' WIDE CONCRETE "V" DITCH
- LIMITS OF SURVEY
- PARCEL RIGHT OF WAY BOUNDARY
- EXISTING EASEMENT
- DIRECTION OF NATURAL FLOW

50% DESIGN SUBMITTAL–NOT FOR CONSTRUCTION

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: FEBRUARY 2022
JOB NO.: 22–02–0019
DESIGN: TB, PA
DRAWN: RR
CHECKED: JN

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RYAN GALLAGHER	74805 RCE NO.	XX/XX/XX DATE
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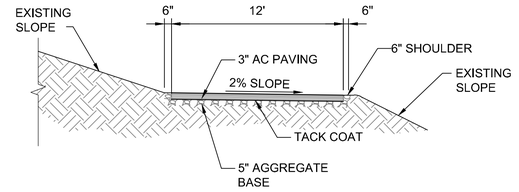
mkn
16310 Bake Parkway
Irvine, Ca. 92618 (714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
ROAD AND DRAINAGE PLAN (STA 100+00 TO 109+00)

C-801
SHEET 13 OF 33 SHEETS

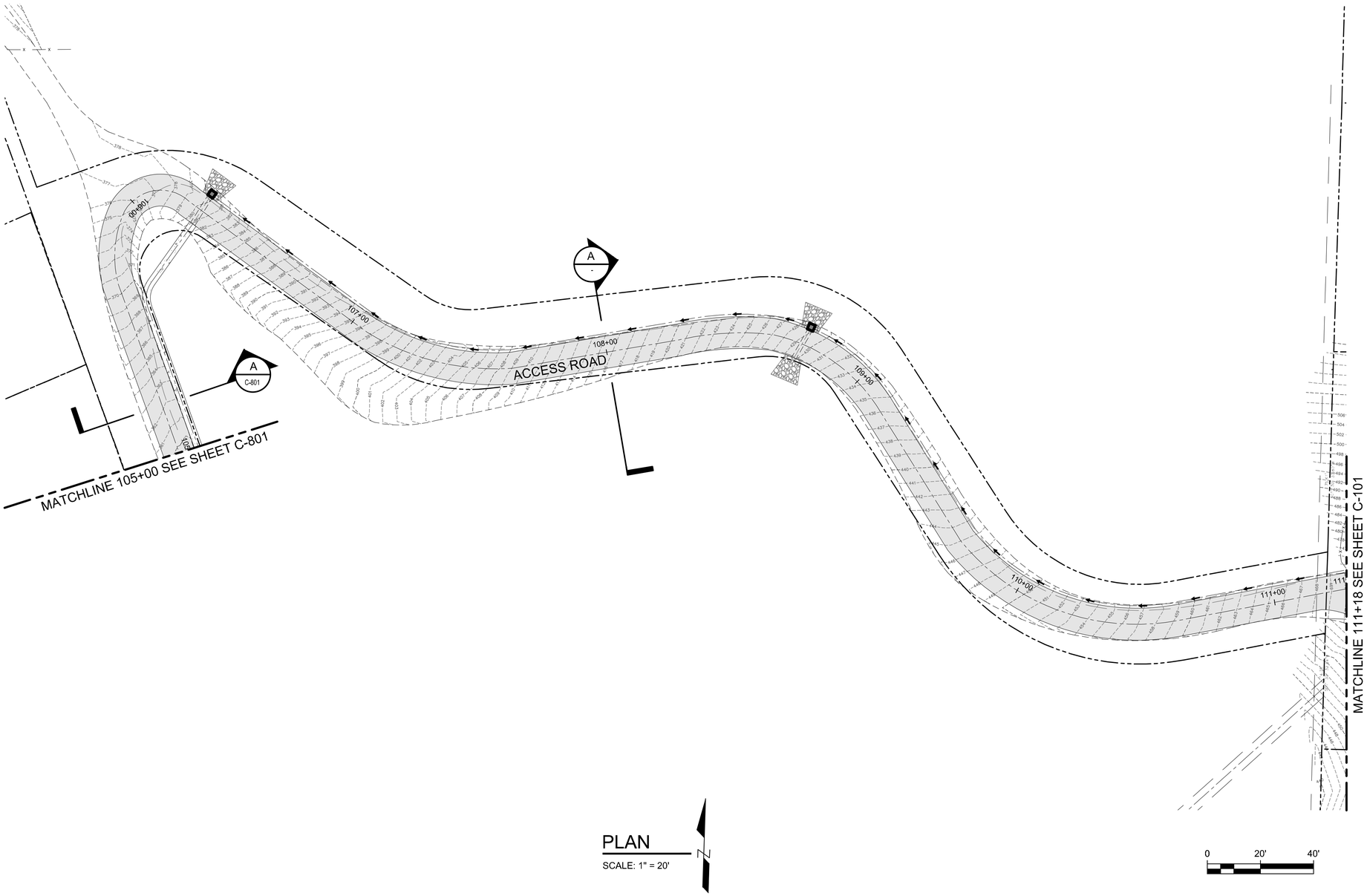
DWG: \\192.168.1.50\Projects\South Coast Water District\SCWD-2021-004 Reservoir 2B Design Services\300 Engineering\301 CAD\Planset\C-802.dwg Layout Name: C-801 - Plotted by: Richard Robson Date: 2/17/2022 - 3:32 PM



ROAD SECTION STA 106+25 TO STA 111+18

SCALE: 1" = 5'

A
-



PLAN

SCALE: 1" = 20'

N

0 20' 40'

LEGEND

- PROPOSED 12' WIDE ASPHALT ACCESS ROAD
- PROPOSED 3' WIDE CONCRETE "V" DITCH
- LIMITS OF SURVEY
- PARCEL RIGHT OF WAY BOUNDARY
- EXISTING EASEMENT
- DIRECTION OF NATURAL FLOW

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

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mkn
16310 Bake Parkway
Irvine, Ca. 92618 (714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
ROAD AND DRAINAGE PLAN (STA 109+00 TO 111+28)

C-802
SHEET 14 OF 33 SHEETS

50% DESIGN SUBMITTAL–NOT FOR CONSTRUCTION

DWG: \\192.168.1.50\Projects\South Coast Water District\SCWD-2021-004 Reservoir 2B Design Services\300 Engineering\301 CAD\Planset\C-801.dwg Layout Name: C-802 - Plotted by: Richard Robson Date: 2/17/2022 - 3:37 PM

STRUCTURAL SHEETS:

S100 STRUCTURAL GENERAL NOTES
S101 SPECIAL INSPECTION TABLES
S102 SPECIAL INSPECTION TABLES
S200 SOLDIER PILE PLAN & SCHEDULE
S201 SOLDIER PILE SECTIONS
S300 RESERVOR LAYOUT & ROOF PLAN
S301 RESERVOIR SECTION
S302 RESERVOIR DETAILS

GENERAL STRUCTURAL NOTES:

1. THESE NOTES ARE GENERAL IN NATURE AND ARE INTENDED TO SET MINIMUM STANDARDS FOR CONSTRUCTION. THE CONTRACTOR SHALL BE COMPLETELY FAMILIAR WITH THE CONTRACT DOCUMENTS AND HAVE A COPY OF THEM ON SITE AT ALL TIMES.

2. FOR ANY PORTION OF THE CONSTRUCTION WHICH THE CONTRACTOR IS UNABLE TO ASCERTAIN THE REQUIRED CONSTRUCTION OR WHERE CONFLICTS EXIST, IT IS THE CONTRACTOR'S RESPONSIBILITY TO REQUEST ADDITIONAL INFORMATION (RFIs) AND/OR CLARIFICATIONS BEFORE CONSTRUCTION.

3. ALL WORK SHALL BE IN STRICT CONFORMANCE WITH THE 2018 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED BY THE 2019 CALIFORNIA BUILDING CODE. ALL BUILDING ELEMENTS AND COMPONENTS NOT SPECIFICALLY DETAILED IN THESE STRUCTURAL CONSTRUCTION DOCUMENTS SHALL BE FABRICATED AND CONSTRUCTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CONTAINED IN THE IBC AS AMENDED BY THE STATE OF CALIFORNIA.

4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS BEFORE CONSTRUCTION. THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.

5. THE CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS SHALL ENSURE COORDINATION OF CONTRACTOR SUPPLIED/DESIGNED ELEMENTS AND DEFERRED SUBMITTALS WITH ALL DESIGN DISCIPLINES WITHIN THE CONSTRUCTION SET. COORDINATION SHALL IDENTIFY AND RECONCILE CONFLICTS BETWEEN THE CONTRACTOR SUPPLIED/DESIGNED ELEMENTS AND THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION AND DELIVERY TO THE PROJECT SITE. THE PROJECT ENGINEER SHALL BE NOTIFIED IF CONFLICTS EXIST.

6. THE CONTRACT STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE. METHODS, PROCEDURES, AND SEQUENCE OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.

7. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN LIVE LOAD FOR THE STRUCTURE. PROVIDE SHORING AND/OR BRACING WHERE LOADS EXCEED DESIGN CAPACITY AND WHERE STRUCTURES HAVE NOT ATTAINED DESIGN STRENGTH.

8. CLADDING, WATERPROOFING, AND ARCHITECTURAL FEATURES ARE OUTSIDE THE STRUCTURAL SCOPE OF WORK. ANY DEPICTION OF SUCH FEATURES ON THE STRUCTURAL DRAWINGS ARE NOT INTENDED TO BE USED FOR CONSTRUCTION. REPRESENTATION OF SUCH FEATURES ON THESE DRAWINGS MAY OR MAY NOT BE ACCURATE. REFER TO PROJECT SPECIFICATIONS.

DESIGN LOADS: PER 2018 IBC, 2019 CBC & AWWA D100-11

1603.1.2 - ROOF LOADS:

DEAD LOAD	15 PSF
LIVE LOAD	20 PSF

1603.1.4 - WIND DESIGN CRITERIA:

ULTIMATE DESIGN WIND SPEED, Vult	106 MPH
NOMINAL DESIGN WIND SPEED, Vasd	82 MPH
RISK CATEGORY	IV
WIND EXPOSURE	EXPOSURE C
IMPORTANCE FACTOR	1.15
WIND PRESSURE, Pw	18.0 PSF

1603.1.5 - EARTHQUAKE DESIGN CRITERIA:

RISK CATEGORY	IV
SEISMIC IMPORTANCE FACTOR, I_E	1.50
SPECTRAL ACCELERATION, S_s	1.326 g
SPECTRAL ACCELERATION, S_1	0.471 g
SITE CLASS	C
SPECTRAL RESPONSE COEFFICIENT, S_{DS}	1.061 g
SPECTRAL RESPONSE COEFFICIENT, S_{D1}	0.471 g
SEISMIC DESIGN CATEGORY	CATEGORY D
IMPULSIVE RESPONSE MODIFICATION FACTORS, Ri	3.0 (MECHANICALLY ANCHORED)
CONVECTIVE RESPONSE MODIFICATION FACTORS, Rc	1.5
IMPULSIVE DESIGN ACCELERATION, Ai	0.38 g
CONVECTIVE DESIGN ACCELERATION, Ac	0.15 g

CONCRETE:

1. ALL CONCRETE SHALL BE HARD ROCK CONCRETE MEETING REQUIREMENTS OF ACI-301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS". MIX PROPORTIONS SHALL BE PER ACI-301, METHOD 2 OR THE ALTERNATE PROCEDURE. SUBMIT MIX DESIGN FOR REVIEW BY STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

2. STRUCTURAL CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS:

TYPE	f'c	SLUMP	w/c	AIR
FOOTINGS	4,500 psi	1-4"	0.45	6%

3. ALL CONCRETE EXPOSED TO WEATHER SHALL CONTAIN 6% (±) 1% AIR ENTRAINMENT BY VOLUME. AIR ENTRAINMENT SHALL BE IN CONFORMANCE WITH ASTM C260.

4. COLD WEATHER PLACEMENT SHALL CONFORM TO ACI-306. HOT WEATHER PLACEMENT SHALL CONFORM TO ACI-305. MECHANICALLY VIBRATE ALL FORMED CONCRETE. DO NOT OVER-VIBRATE. PLACE CONCRETE MONOLITHICALLY BETWEEN CONSTRUCTION OR CONTROL JOINTS. PROTECT ALL CONCRETE FROM PREMATURE DRYING.

5. CHAMFER ALL EXTERIOR CORNERS 1/2" UNLESS SHOWN OTHERWISE.

6. SLUMP LIMITS MAY BE INCREASED BY ADDITION OF ADMIXTURES PROVIDED THAT THE WATER/CEMENT RATIO OF THE ORIGINAL MIX DESIGN IS NOT EXCEEDED. WATER REDUCING ADMIXTURE SHALL BE IN CONFORMANCE WITH ASTM494, USED IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS. SUBMIT ADMIXTURES TO ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.

7. CEMENT SHALL BE TYPE I OR II IN CONFORMANCE WITH ASTM C150. AGGREGATES SHALL BE IN CONFORMANCE WITH ASTM C33 AND USE CRUSHED (NOT ROUND) GRAVEL OR STONE. COARSE AGGREGATES SHALL NOT EXCEED 3/4". WATER SHALL BE CLEAN AND POTABLE.

8. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. GRADE 40 MAY BE USED FOR #3 AND SMALLER TIES AND STIRRUPS. DETAIL AND PLACE ACCORDING TO ACI MANUAL SP-66. BENDING OF REINFORCING STEEL IN THE FIELD IS NOT PERMITTED WITHOUT APPROVAL BY EOR. REBENDING OR STRAIGHTENING OF REINFORCING OR BENDING OF REINFORCING STEEL CAST INTO CONCRETE IS NOT ALLOWED.

9. UNLESS OTHERWISE NOTED, MINIMUM COVER SHALL BE 1 1/2" FOR #5 AND SMALLER BARS, 2" FOR #6 AND LARGER BARS AND 3" WHEN POURED AGAINST EARTH. SUPPORT REINFORCEMENT WITH APPROVED CHAIRS, SPACERS, OR TIES.

10. PROVIDE MINIMUM 48 BAR DIAMETERS AT SPLICES. NO MORE THAN 50% OF REINFORCING SHALL BE SPLICED AT ANY LOCATION. UNLESS OTHERWISE NOTED, BEND ALL HORIZONTAL REINFORCING A MINIMUM OF 2'-0" AT CORNERS AND WALL/FOOTING INTERSECTIONS WITH MIN. EMBEDMENT BEYOND INTERFACE PER DEVELOPMENT LENGTH SPECIFIED IN ACI 318.

11. FORMWORK SHALL BE IN ACCORDANCE WITH ACI-347 "GUIDE TO FORMWORK FOR CONCRETE". FORMS SHALL BE DESIGNED BY THE CONTRACTOR. BRACING SHALL BE PROVIDED AS REQUIRED OR UNTIL THE CONCRETE HAS REACHED ITS SPECIFIED 28-DAY STRENGTH. ALL SHORING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. FORMWORK, SUPPORTS, AND SHORING SHALL PROVIDE FINISHED CONCRETE SURFACES AT ALL FACES: LEVEL, PLUMB, AND TRUE TO DIMENSIONS AND ELEVATIONS SHOWN IN THE DRAWINGS.

FOUNDATIONS:

1. GEOTECHNICAL REPORT WAS PREPARED BY NINYO & MOORE GEOTECHNICAL & ENVIRONMENTAL SCIENCES CONSULTANTS OF 475 GODDARD, SUITE 200, IRVINE, CALIFORNIA. PHONE: (949) 753-7070, DATED JANUARY 28, 2022 (THEIR FILE No. 211532002). THE CONTRACTOR SHALL BE FAMILIAR WITH THAT SUPPLEMENTAL REPORT INFORMATION AND THE RECOMMENDATIONS CONTAINED THEREIN.

2. ALL FOUNDATIONS TO BEAR ON COMPETENT BEDROCK OR TWO-SACK CEMENT SLURRY, PER THE PROJECT CONTRACT DOCUMENTS. THE CONTRACTOR IS DIRECTED TO THE GEOTECHNICAL REPORT IN THE PROJECT SUPPLEMENTAL INFORMATION FOR ADDITIONAL INFORMATION. EXCAVATIONS FOR FOUNDATIONS SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING OF CONCRETE FOR FOUNDATION.

3. SOIL DESIGN CRITERIA, PER GEOTECHNICAL ENGINEER:
   - 3.1. SOIL BEARING - 8,000 PSF
   - 3.2. ⅓ INCREASE ALLOWED PRESUMED CAPACITIES FOR SHORT TERM LOADS
   - 3.3. SOIL PROFILE - C
   - 3.4. FRICTION COEFFICIENT - 0.40
   - 3.5. SOLDIER PILE - W/O TIEBACKS
     - 3.6.1. PASSIVE PRESSURE: 550D PSF
     - 3.6.2. ACTIVE PRESSURE: 36H PSF (TRIANGULAR DISTRIBUTION)
     - 3.6.3. SEISMIC PRESSURE: 18H PSF
   - 3.7. SOLDIER PILE - W/ TIEBACK
     - 3.7.1. PASSIVE PRESSURE: 400 PSF
     - 3.7.2. ACTIVE PRESSURE: 24H PSF (TRAPEZOIDAL DISTRIBUTION)
     - 3.7.3. SEISMIC PRESSURE: 18H PSF

STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING GRADES, UNLESS NOTED OTHERWISE ON THE PLANS:

SHAPE	ASTM DESIGNATION	YIELD STRESS (Fy)
PLATES & BARS	ASTM A36	36 ksi
PIPES	ASTM A53, GRADE B	35 ksi
HSS (RECTANGULAR)	ASTM A500, GRADE C	50 ksi
HSS (ROUND)	ASTM A500, GRADE C	46 ksi
W-SECTIONS	ASTM A992	50 ksi
M/S-SHAPES	ASTM A36	36 ksi
HP-SHAPES	ASTM A572, GRADE 50	50 ksi
CHANNELS & ANGLES	ASTM A36	36 ksi

2. WELD ACCORDING TO CURRENT AWS STANDARDS WITH E70XX ELECTRODES.

3. WELD SIZES SHOWN ON THE DESIGN DRAWINGS ARE CONSIDERED EFFECTIVE WELD SIZES AND SHALL BE INCREASED IN ACCORDANCE WITH AWS AS REQUIRED BY GAPS OR SKEWS BETWEEN COMPONENTS.

4. ALL STEEL EXPOSED TO WEATHER SHALL BE PAINTED OR HOT-DIP GALVANIZED, UNLESS NOTED OTHERWISE.

5. ALL STRUCTURAL CONNECTION BOLTS SHALL BE ASTM F3125 GRADE A325, UNLESS NOTED OTHERWISE. HOOKED, HEADED, THREADED, AND NUTTED ANCHOR RODS SHALL BE ASTM F1554 (Fy = 36 ksi), UNLESS NOTED OTHERWISE.

6. CONTACT BETWEEN DISSIMILAR METALS SHALL BE ISOLATED USING PHENOLIC OR OTHERWISE APPROVED ISOLATION HARDWARE

SOLID SAWN LUMBER:

1. LAGGING SHALL BE DOUGLAS-FIR OR HEM-FIR CONFORMING TO WWPA GRADING RULES.

2. MINIMUM GRADES ARE, EXCEPT AS NOTED OTHERWISE:

   LAGGING - #1 OR BETTER

3. DOUBLE JOISTS BENEATH ALL PARALLEL WALLS AND/OR PARTITIONS.

4. NOTCHING IS NOT PERMITTED IN JOISTS, RAFTERS, BEAMS, LINTELS, COLUMNS, TRUSSES, AND BRACING MEMBERS.

5. PRESSURE TREATED LUMBER SHALL CONFORM TO THE AWPA AND SHALL BEAR THE QUALITY MARK OF AN ACCREDITED ALSC INSPECTION AGENCY. MINIMUM TREATING STANDARDS (RETENTION LBS./CU. FT) SHALL BE AS FOLLOWS:

APPLICATION	ACQ/ACZA	CA-B
IN GROUND (STRUCTURAL)	0.60	0.31

6. ALL LUMBER IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED WITH ACZA TO A MINIMUM RETENTION OF 0.25 POUNDS PER CUBIC FOOT BY ASSAY.

7. NAILING SHALL BE IN CONFORMANCE WITH THE 2018 IBC AS AMENDED BY THE OSSC/WITH WASHINGTON AMENDMENTS UNLESS NOTED OTHERWISE. FASTENERS FOR PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. THE COATING WEIGHTS FOR ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A-153. 5/8-INCH DIAMETER STEEL ANCHOR BOLTS & LARGER NEED NOT BE GALVANIZED, UNLESS NOTED OTHERWISE.

8. PROVIDE STANDARD 3"x3"x¼" PLATE WASHERS UNDER ALL INTERMEDIATE ANCHOR BOLT HEADS AND NUTS AT THE SILL PLATE. USE STANDARD WASHERS FOR ALL OTHER BOLT HEADS AND NUTS IN CONTACT WITH WOOD.

TIE BACK ANCHORS:

1. CONTRACTOR SHALL BE FAMILIAR WITH THE GEOTECHNICAL REPORT (SEE FOUNDATIONS) AND CONFORM TO THE RECOMMENDATIONS CONTAINED THEREIN

2. REFERENCE SPECIFICATION SECTION: XX XX XX

3. DESIGN OF TIEBACK ANCHORS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHOULD CONSIST OF EITHER MULTI-STRAND STEEL TENDONS OR HIGH TENSILE STRENGTH STEEL BARS PLACED IN INCLINED DRILLED HOLES AND BACKFILLED WITH LOW-SLUMP CONCRETE GROUT. THE TIEBACKS SHOULD BE DESIGNED FOR AN ULTIMATE TENSILE STRENGTH OF 100 KIPS, SHOULD BE INCLINED AT 15° BELOW HORIZONTAL, AND SHOULD BE BETWEEN 6 AND 12 INCHES IN DIAMETER.

4. PERFORMANCE TEST: 5% OF THE TIEBACK ANCHORS SHALL BE PERFORMANCE TESTED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN SPECIFICATION XX XX XX

5. PROOF TEST: ALL ANCHORS THAT ARE NOT PERFORMANCE TESTED SHALL BE PROOF-TESTED WITH THE PROCEDURES DESCRIBED IN SPECIFICATION XX XX XX

DIGALERT CALL TOLL FREE 811 TWO WORKING DAYS BEFORE YOU DIG Underground Service Alert

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

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JOB NO. 22-02-0019 | DRAWN KTK
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EDWARD LING — XX/XX/XX DATE
JOSEPH WENDT — XX/XX/XX DATE

PSE PETERSON STRUCTURAL ENGINEERS
10650 Treena St.
Suite 208
San Diego, CA 92131
(858) 842-1674
PSE Project #: 2103-0034
Date: 02/15/2022

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
STRUCTURAL GENERAL NOTES

S100
SHEET X OF X SHEETS

50% DRAFT PLANSET – NOT FOR CONSTRUCTION

DWG: X:\2021\03 - SDCH\2103-0026 to 2103-0050\2103-0034\1 - Project Data Files\2022_02_15 50% Drawings\50% Drawings 2103-0034.dwg Layout Name: S100 - Plotted by: Kyle Hadonsto Date: 2/15/2022 - 2:46 PM

QUALITY ASSURANCE PLAN:

SHOP DRAWINGS & SUBMITTALS

SHOP DRAWINGS, SUBMITTALS AND/OR MILL CERTIFICATES FOR THE FOLLOWING ITEMS SHALL BE SUBMITED TO THE OWNER AND ENGINEER OF RECORD FOR REVIEW A MINIMUM OF 21 DAYS PRIOR TO FABRICATION:

1. STEEL FABRICATION SHOP DRAWINGS, MATERIAL CERTIFICATIONS & WELDING PROCEDURES
2. CONCRETE MIX DESIGN AND PROPOSED ADMIXTURES
3. CONCRETE REINFORCING SHOP DRAWINGS

STRUCTURAL OBSERVATION REQUIREMENTS:

1. THE OWNER SHALL EMPLOY THE ENGINEER OF RECORD OR AN ALTERNATE CALIFORNIA LICENSED PROFESSIONAL ENGINEER, APPROVED BY THE ENGINEER OF RECORD, TO PERFORM STRUCTURAL OBSERVATIONS IN ACCORDANCE WITH SECTION 1704.6 OF THE INTERNATIONAL BUILDING CODE.

2. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM BY A REGISTERED DESIGN PROFESSIONAL FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY OTHER INSPECTION CRITERIA, INCLUDING SPECIAL INSPECTION, AS REQUIRED BY THE BUILDING OFFICIAL OR AS INDICATED WITHIN THE INTERNATIONAL BUILDING CODE.

3. DEFICIENCIES SHALL BE REPORTED IN WRITING TO THE OWNER AND THE BUILDING OFFICIAL (AND THE ENGINEER OF RECORD IF AN ALTERNATE ENGINEER IS USED FOR STRUCTURAL OBSERVATION). AT THE CONCLUSION OF THE STRUCTURAL WORK INCLUDED WITHIN THE PERMIT, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL AND THE OWNER (AND THE ENGINEER OF RECORD IF AN ALTERNATE ENGINEER IS USED FOR STRUCTURAL OBSERVATION) A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES WHICH, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

4. THE CONTRACTOR SHALL MAKE AVAILABLE ALL MEANS AND METHODS NECESSARY FOR THE STRUCTURAL OBSERVER TO PERFORM THE REQUIRED STRUCTURAL OBSERVATIONS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE OWNER AND STRUCTURAL OBSERVER A MINIMUM OF 48 HOURS BEFORE THE TIME AT WHICH THE SPECIFIED STRUCTURAL OBSERVATIONS MAY BE PERFORMED. IN ADDITION THE CONTRACTOR SHALL UPDATE THE STRUCTURAL OBSERVER OF THE CONSTRUCTION PROGRESS.

5. STRUCTURAL OBSERVATIONS SHALL BE PERFORMED FOR THE FOLLOWING AREAS OF WORK:
   - 5.1. FORMING AND REINFORCING OF THE FOOTINGS AND ANCHORS PLACEMENT FOR THE RESERVOIR PRIOR TO THE FIRST CONCRETE POUR
   - 5.2. FOLLOWING COMPLETION OF PILES PRIOR TO PLACEMENT OF LAGGING
   - 5.3. FOLLOWING THE COMPLETION OF ALL STRUCTURAL ELEMENTS CONTAINED HEREIN

QUALITY ASSURANCE FOR SEISMIC RESISTANCE

QUALITY ASSURANCE FOR THE STRUCTURE'S MAIN LATERAL FORCE RESISTING SYSTEM SHALL BE PROVIDED BY SPECIAL INSPECTION AND MATERIAL TESTING OF THE FOLLOWING:

SPECIAL INSPECTIONS:

1. AN INDEPENDENT TESTING LABORATORY CHOSEN BY THE OWNER SHALL PROVIDE SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE AND OF THE TYPE AND FREQUENCY OUTLINED IN THE QUALITY CONTROL SECTION OF THESE GENERAL STRUCTURAL NOTES.

2. EACH SPECIAL INSPECTION AND MATERIAL TESTING REPORT SHALL BE DISTRIBUTED TO THE OWNER, CONTRACTOR, BUILDING OFFICIAL, AND ENGINEER OF RECORD IN A TIMELY FASHION.

3. THE CONTRACTOR SHALL MAKE AVAILABLE ALL MEANS AND METHODS NECESSARY FOR THE SPECIAL INSPECTOR TO PERFORM THE REQUIRED INSPECTIONS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE OWNER AND SPECIAL INSPECTOR A MINIMUM OF 48 HOURS BEFORE THE TIME AT WHICH THE SPECIFIED SPECIAL INSPECTION MAY BE PERFORMED.

RESERVED FOR SPECIAL INSPECTION TABLES

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REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE FEB 2022 | JOB NO. 22-02-0019 | DESIGN KTK | DRAWN KTK | CHECKED JWW

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JOSEPH WENDT — xx/xx/xx DATE

PSE PETERSON STRUCTURAL ENGINEERS
10650 Treena St.
Suite 208
San Diego, CA 92131
(858) 842-1674
PSE Project #: 2103-0034
Date: 02/15/2022

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
SPECIAL INSPECTION TABLES

S101 | SHEET X OF X SHEETS

50% DRAFT PLANSET – NOT FOR CONSTRUCTION

DWG: X:\2021\03 - SSD\2103-0026 to 2103-0050\2103-0034\1 - Project Data Files\2022_02_15 50% Drawings\50% Drawings 2103-0034.dwg Layout Name: S101 - Plotted by: Kyle Kadomoto Date: 2/15/2022 - 2:46 PM

RESERVED FOR SPECIAL INSPECTION TABLES

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(858) 842-1674

PSE Project #: 2103-0034

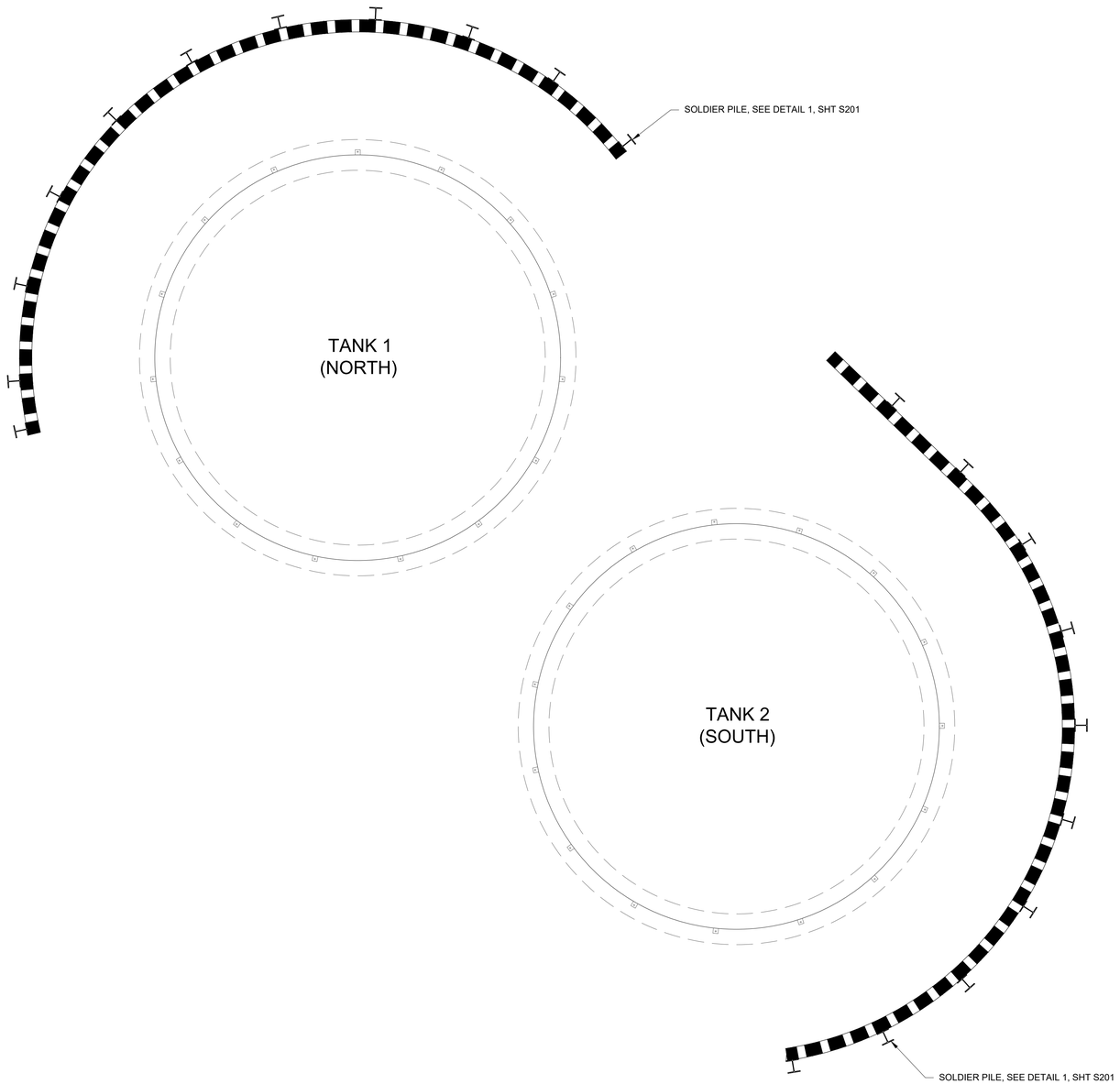
Date: 02/15/2022

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
SPECIAL INSPECTION TABLES

S102
SHEET X OF X SHEETS

50% DRAFT PLANSET – NOT FOR CONSTRUCTION

DWG: X:\2021\03 - SDCo\2103-0026 to 2103-0050\2103-0034\11 - Project Data Files\2022_02_15 50% Drawings\50% Drawings 2103-0034.dwg Layout Name: S102 - Plotted by: Kyle Kadomoto Date: 2/15/2022 - 2:46 PM



SOLDIER PILE SCHEDULE

RETAINING WALL PLAN
1 S200
3/16" = 1'-0"

N

DIGALERT CALL TOLL FREE 811 TWO WORKING DAYS BEFORE YOU DIG Underground Service Alert

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JOSEPH WENDT xx/xx/xx DATE

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(858) 842-1674
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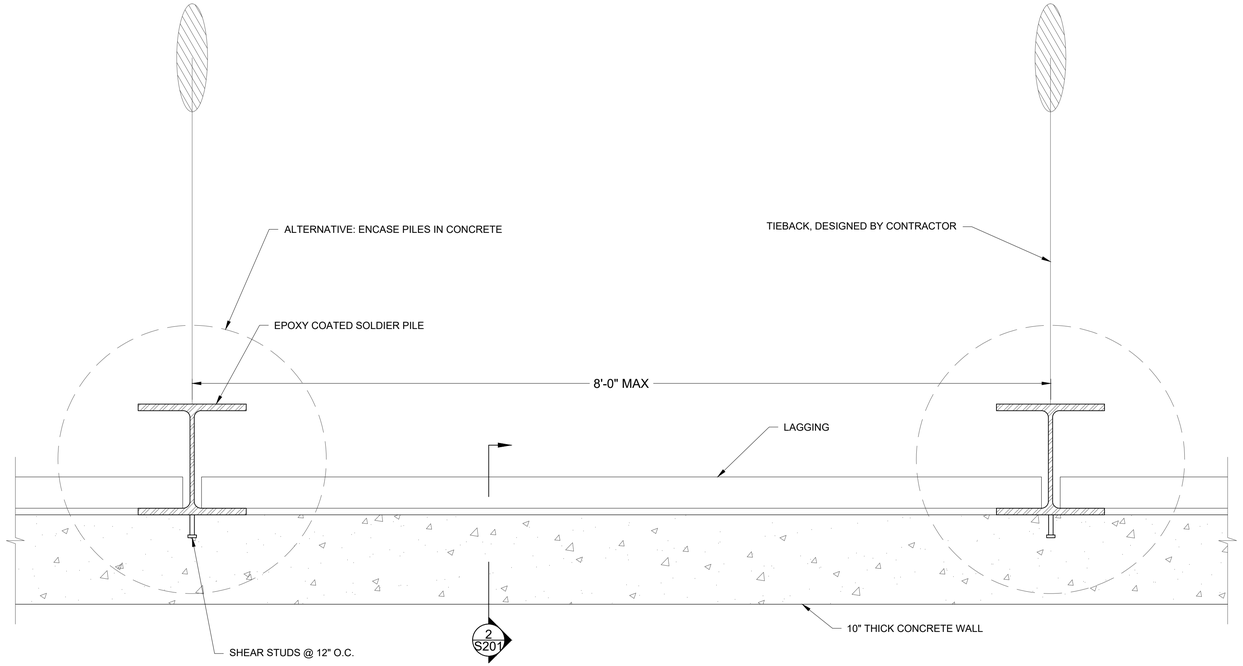
SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
SOLDIER PILE PLAN & SCHEDULE

S200
SHEET X OF X SHEETS

50% DRAFT PLANSET – NOT FOR CONSTRUCTION

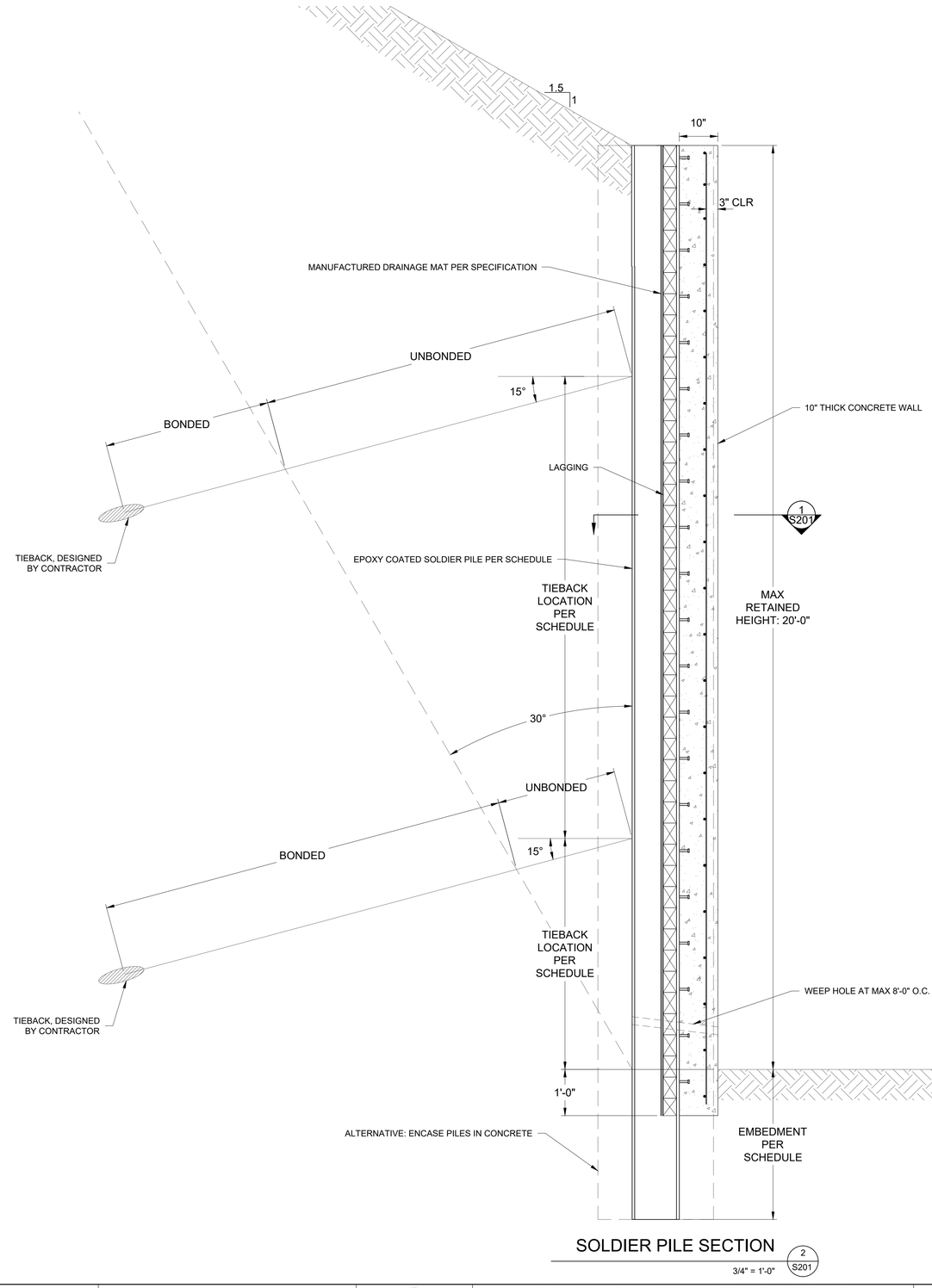
DWG: X:\2021\03 - SDO\2103-0026 to 2103-0050\2103-0034\1 - Project Data Files\2022_02_15 50% Drawings\50% Drawings 2103-0034.dwg Layout Name: S200 - Plotted by: Kyle Kadomoto Date: 2/15/2022 - 2:46 PM



SOLDIER PILE SECTION

1-1/2" = 1'-0"

1
S201



SOLDIER PILE SECTION

3/4" = 1'-0"

2
S201

SOLDIER PILE ANCHORAGE DETAIL

DIGALERT CALL TOLL FREE 811 TWO WORKING DAYS BEFORE YOU DIG Underground Service Alert

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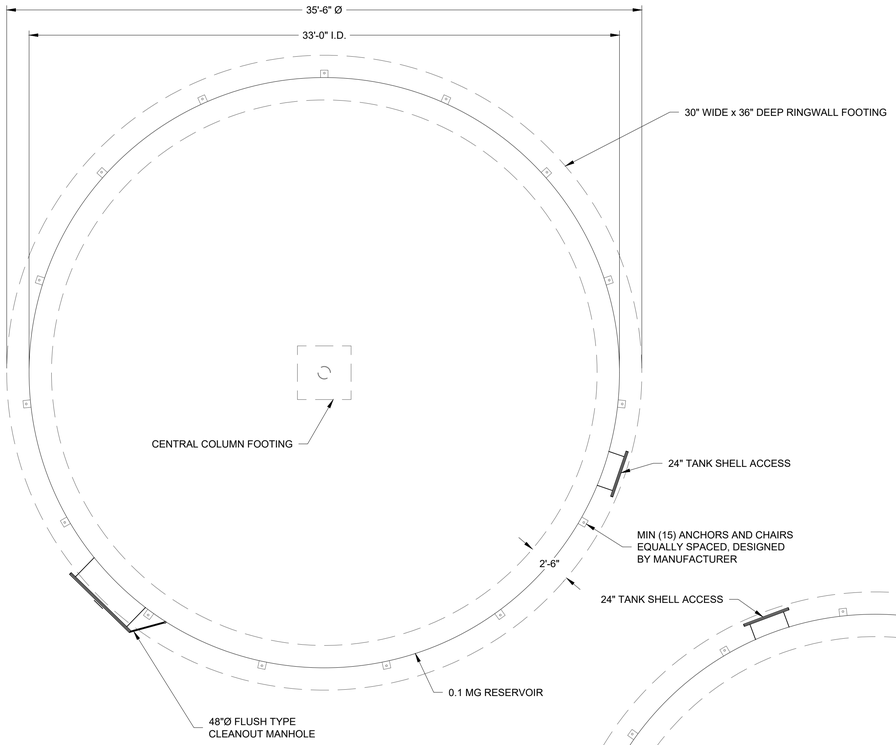
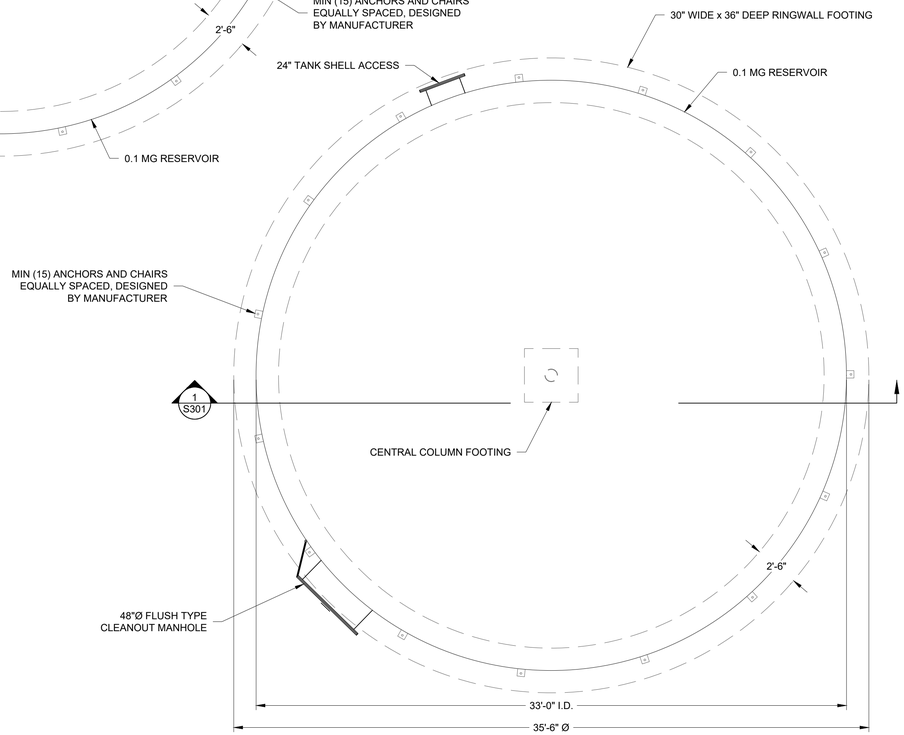
SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
SOLDIER PILE SECTIONS

S201 | SHEET X | OF X SHEETS

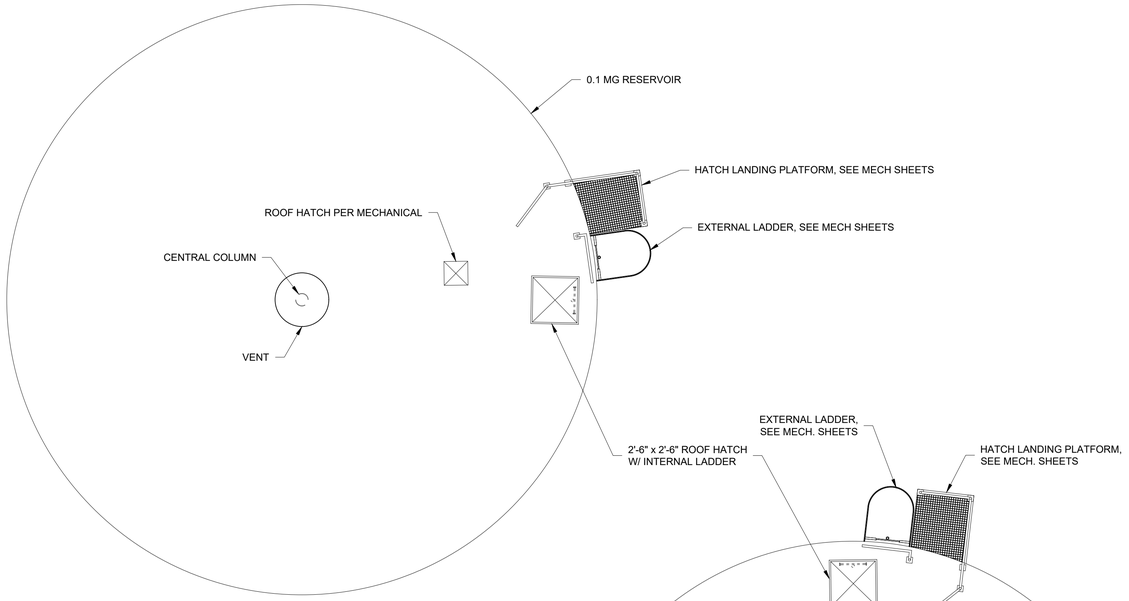
50% DRAFT PLANSET – NOT FOR CONSTRUCTION

DWG: X:\2021\03 - SDC\2103-0026 to 2103-0050\2103-0034\1 - Project Data Files\2022_02_15 50% Drawings\50% Drawings 2103-0034.dwg Layout Name: S201 - Plotted by: Kyle Kodomodo Date: 2/15/2022 - 2:46 PM





RESERVOIR LAYOUT (1 / S300)
1/4" = 1'-0"



RESERVOIR ROOF PLAN (2 / S300)
1/4" = 1'-0"

DIGALERT CALL TOLL FREE 811 TWO WORKING DAYS BEFORE YOU DIG Underground Service Alert

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

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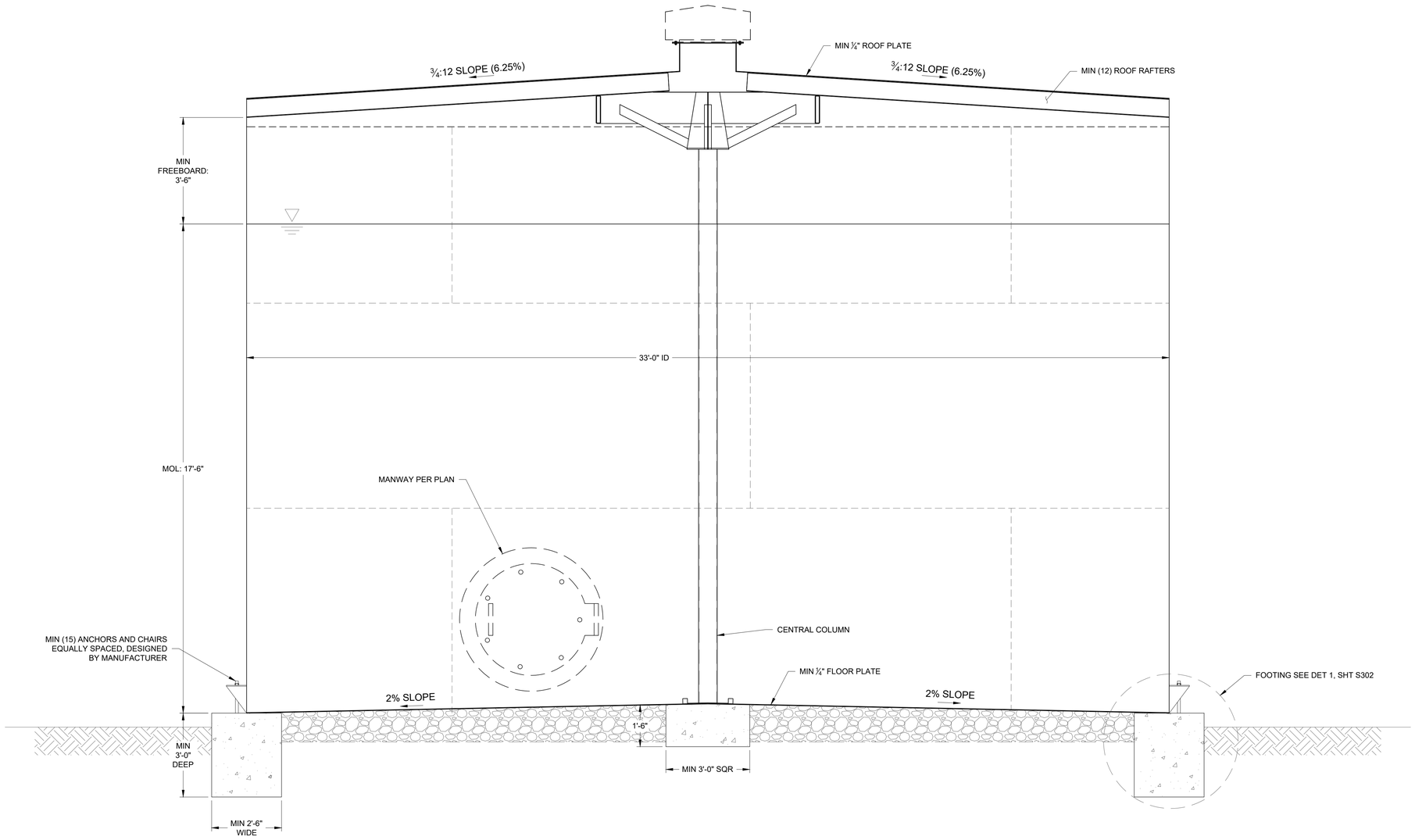
San Diego, CA 92131
(858) 842-1674
PSE Project #: 2103-0034
Date: 02/15/2022

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
RESERVOIR LAYOUT & ROOF PLAN
S300
SHEET X OF X SHEETS

50% DRAFT PLANSET – NOT FOR CONSTRUCTION

DWG: X:\2021\03 - SDCI\2103-0003\b to z\2103-0003\2103-0003\41 - Project Data Files\2022_02_15 50% Drawings\50% Drawings 2103-0034.dwg Layout Name: S300 - Plotted by: Kyle Kadomoto Date: 2/15/2022 - 2:46 PM



TYPICAL RESERVOIR SECTION

1/2" = 1'-0"

1 / S301

NOTE: APPURTENANCES HAVE BEEN ROTATED FOR CLARITY. REFER TO STORAGE TANK PLAN FOR LOCATIONS

DIGALERT CALL TOLL FREE 811 TWO WORKING DAYS BEFORE YOU DIG Underground Service Alert

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

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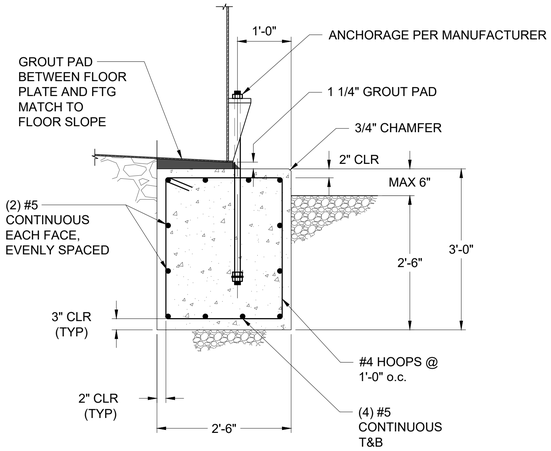
SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
RESERVOIR SECTION

SHEET X OF X SHEETS — S301

50% DRAFT PLANSET – NOT FOR CONSTRUCTION

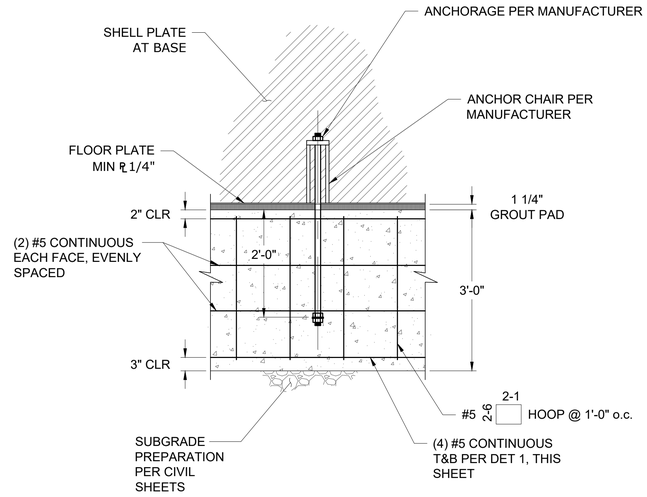
DWG: X:\2021\03 - SDD\2103-0026 to 2103-0050\2103-00341 - Project Data Files\2022_02_15 50% Drawings\50% Drawings 2103-0034.dwg Layout Name: S301 - Plotted by: Kyle Kadomoto Date: 2/15/2022 - 2:46 PM



FOOTING SECTION

1 S302

3/4" = 1'-0"



FOOTING DETAIL

2 S302

3/4" = 1'-0"

DIGALERT CALL TOLL FREE 811 TWO WORKING DAYS BEFORE YOU DIG Underground Service Alert

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SOUTH COAST WATER DISTRICT

RESERVOIR 2B REPLACEMENT PROJECT

RESERVOIR DETAILS

S302 | SHEET X OF X SHEETS

50% DRAFT PLANSET – NOT FOR CONSTRUCTION

DWG: X:\2021\03 - SSO\2103-0026 to 2103-0056\2103-0034\1- Project Data Files\2022_02_15 50% Drawings\50% Drawings 2103-0034.dwg Layout Name: S302 - Plotted by: Kyle Kadomoto Date: 2/15/2022 - 2:46 PM

CONDUIT PLAN	SINGLE LINE DIAGRAM	SCHEMATIC DIAGRAM	DESCRIPTION
	50A 3P		CIRCUIT BREAKER. UPPER NUMBER IS TRIP RATING. LOWER NUMBER IS NUMBER OF POLES
■			THREE POSITION SWITCH. MAINTAINED CONTACT FUNCTION MAY VARY AS NOTED ON DIAGRAMS. CENTER POSITION IS OFF
■			TWO POSITION SWITCH. MAINTAINED CONTACT FUNCTION MAY VARY AS NOTED ON DIAGRAMS
■			MOMENTARY CONTACT PUSHBUTTON. FUNCTION MAY VARY AS NOTED ON DIAGRAMS
■ LOS		LOS	MOMENTARY CONTACT PUSHBUTTON WITH PROVISION FOR LOCKOUT.
			LOCKABLE DISCONNECT SWITCH. RATING AND DETAILS AS NOTED ON DRAWINGS.
■ ZS			LIMIT SWITCH. NORMALLY OPEN
■ ZS			LIMIT SWITCH. NORMALLY CLOSED
		NOTO	TIME DELAY RELAY CONTACT. OFF DELAY, NORMALLY OPEN, TIME OPEN
		NCTC	TIME DELAY RELAY CONTACT. OFF DELAY, NORMALLY CLOSED, TIME CLOSED
		NOTC	TIME DELAY RELAY CONTACT. ON DELAY, NORMALLY OPEN, TIME CLOSED
		NCTO	TIME DELAY RELAY CONTACT. ON DELAY, NORMALLY CLOSED, TIME OPEN
■ SOV			SOLENOID OPERATED VALVE
			MOTOR CONTROL CENTER DRAWOUT STABS
⊠	2		MOTOR STARTER WITH THERMAL OVERLOADS. NUMBER INDICATES NEMA SIZE
		OL	MOTOR OVERLOAD CONTACT
(2)	(2)	2	MOTOR, NUMBER INDICATES HORSEPOWER
		R	INDICATING LIGHT, PUSH-TO-TEST. LETTER INDICATES COLOR. R=RED B=BLUE G=GREEN A=AMBER W=WHITE
		M	CONTACTOR OR RELAY COIL. LETTER OR NUMBER IS DESIGNATION
		M	NORMALLY CLOSED CONTACT. LETTER OR NUMBER IS DESIGNATION
		M	NORMALLY OPEN CONTACT. LETTER OR NUMBER IS DESIGNATION
		RTM	RUNNING TIME METER, NON-RESETTABLE
	20A	5A	FUSE, NUMBER INDICATES RATING
			CONTROL TRANSFORMER. RATING AS NOTED ON DRAWINGS OR AS REQUIRED BASED ON LOAD SERVED.
	(KW)		KILOWATT METER
■ PS			PRESSURE SWITCH. CONTACT ACTION AS NOTED ON DRAWINGS

CONDUIT PLAN	SINGLE LINE DIAGRAM	SCHEMATIC DIAGRAM	DESCRIPTION
T			POWER TRANSFORMER. RATINGS AS NOTED ON DRAWINGS
			DUPLEX RECEPTACLE. 20A, SPEC GRADE GROUNDING TYPE. UNLESS OTHERWISE NOTED ON DRAWINGS.
			TELEPHONE OUTLET
J			JUNCTION BOX OR CONDUIT FITTING AS NOTED OR REQUIRED. (SHOWN WITH CONDUIT TURNING UP)
■ LS			LEVEL SWITCH, CONTACT ACTION AS NOTED ON DRAWINGS
			CONTROL PANEL OR EQUIPMENT AS NOTED
■ FS			FLOW SWITCH, CONTACT ACTION AS NOTED ON DRAWINGS
$			FLUSH TOGGLE SWITCH, SINGLE POLE, SINGLE THROW
$3			FLUSH TOGGLE SWITCH, THREE WAY
			FLUORESCENT FIXTURE. SEE LIGHTING SCHEDULE.
			LIGHTING FIXTURE, WALL MOUNTED SEE LIGHTING SCHEDULE
PB			MH-MANHOLE PB-PULLBOX HH-HANDHOLE OR AS NOTED ON DRAWINGS
T			TELEPHONE CONDUIT. SIZE AS NOTED
G			GROUNDING GRID OR GROUNDING CONDUCTOR SIZE AS REQUIRED OR AS NOTED ON DRAWINGS
G			GROUND PIGTAIL. SIZE AS NOTED ON DRAWINGS
G			EXOTHERMIC GROUND CONNECTION
G			BOLTED GROUND CONNECTION
			CONDUIT BENDING UP
			CONDUIT BENDING DOWN
			UNDERGROUND OR CONCEALED CONDUIT, 1" MINIMUM
			EXPOSED CONDUIT, 3/4" MINIMUM.
PB1 1,3,5			HOMERUN CONDUIT WITH 3 CONDUCTORS, NEUTRAL AND GROUND, CIRCUITS 1,3,5 PANEL PB1, NO HASHMARKS INDICATE 2 CONDUCTORS AND GROUND
			DRIVEN GROUND ROD/TEST WELL 3/4" X 10' Cu CLAD STEEL
			PANELBOARD OR AS NOTED ON DRAWING
			LIQUIDTIGHT FLEXIBLE CONDUIT
XXX	XXX		CONDUIT NUMBER 'XXX', REFER TO CONDUIT SCHEDULE FOR DESCRIPTION

CONDUIT PLAN	SINGLE LINE DIAGRAM	SCHEMATIC DIAGRAM	DESCRIPTION
$M			MANUAL MOTOR STARTER
			GROUND
			HEATER, RATING AS NOTED ON DRAWING
			HORN OR AUDIBLE SIGNAL
ø	ø	ø	PHASE
			TERMINAL, INTERNAL WIRING
			TERMINAL, FIELD WIRING
■ DS			DOOR SWITCH
			CONDUIT STUB OUT
F XX	XX		DISCONNECT SWITCH, F = FUSED NF = NON-FUSED XX = AMP RATING
		T	TELEMETRY INPUT POINT
		P	PLC INPUT POINT AT RTU

STANDARD ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	ABOVE FINISHED CONCRETE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAUGE
BC	BARE COPPER
BD	BOARD
BKR	BREAKER
C	CONDUIT
CAB	CABINET
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
C.O.	CONDUIT ONLY
COMPT	COMPARTMENT
COND	CONDUCTOR
CONT	CONTROL
CONTD	CONTINUED
CPT	CONTROL POWER TRANSFORMER
CP	CONTROL PANEL
CT	CURRENT TRANSFORMER
CU	COPPER
CR	CONTROL RELAY
DC	DIRECT CURRENT
DISC	DISCONNECT
DISC SW	DISCONNECT SWITCH
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DWG	DRAWING
DS	DOOR SWITCH
EL,ELEV	ELEVATION
EMT	ELECTRICAL METALLIC TUBING
EO	ELECTRICALLY OPERATED
EXIST	EXISTING
FBO	FURNISHED BY OWNER
FDR	FEEDER
FIN	FINISHED
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FM	FLOW METER
FS	FLOW SWITCH
FT OR '	FEET OR FOOT
FT	FLOW TRANSMITTER
FUT	FUTURE
FVNR	FULL VOLTAGE NON REVERSING
GALV	GALVANIZED
GD	GAS DETECTORS
GFI	GROUND FAULT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GND OR G	GROUND
HH	HANDHOLE
HOA	HAND/OFF/AUTO
HTR	HEATER
IC	INTERRUPTING CURRENT
IN OR "	INCHES OR INCH
IND	INDICATING
INST	INSTANTANEOUS
INSTR	INSTRUMENT
INTLK	INTERLOCK
JB OR J	JUNCTION BOX, CONDULET OR FITTING AS REQUIRED BY NEC. UNLESS OTHERWISE NOTED
KW	KILOWATTS
LCL	LONG CONTINUOUS LOAD
LCP	LOCAL CONTROL PANEL
LEV	LEVEL
LIM	LIMIT
LR	LOCAL/REMOTE
LOS	LOCKOUT STOP STATION
LS	LEVEL OR LIMIT SWITCH
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS AND GROUND FAULT ADJUSTMENTS
LT	LIGHT
LTG	LIGHTING
LV	LOW VOLTAGE
MA	MILLIAMPERE
MAINT	MAINTAINED
MAN	MANUAL
MAX	MAXIMUM
MC	MAINTAINED CONTACT
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MCP	MOTOR CIRCUIT PROTECTOR
MH	MANHOLE
MIN	MINIMUM OR MINUTE
MLO	MAIN LUGS ONLY
MOV	MOTOR OPERATED VALVE ACTUATOR
MSB	MAIN SWITCHBOARD
MTG	MOUNTING
MTR	MOTOR
N	NEUTRAL
NA	NON-AUTOMATIC
NC	NORMALLY CLOSED
NCIO	NORMALLY CLOSED, INSTANTANEOUS OPEN
NCTC	NORMALLY CLOSED, TIME CLOSE
NCTO	NORMALLY CLOSE, TIME OPEN
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
No	NUMBER
NO	NORMALLY OPEN
NOIC	NORMALLY OPEN, INSTANTANEOUS CLOSE
NOTC	NORMALLY OPEN, TIME CLOSE
NOTO	NORMALLY OPEN, TIME OPEN
NP	NAMEPLATE
NTS	NOT TO SCALE
OL	OVERLOAD
OTT	OVERTEMP SWITCH
PB	PUSHBUTTON
PB	PULLBOX
PC	PHOTOCELL
PCV	PUMP CONTROL VALVE
PMR	POWER MONITOR RELAY
PNL	PANEL
POS	POSITION
PR	PAIR
PRI	PRIMARY
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PVC/RGS	PVC JACKETED RIGID GALVANIZED STEEL CONDUIT
PW	PART WINDING
RECEP	RECEPTACLE
RCP	REMOTE CONTROL PANEL
RGS	RIGID GALVANIZED STEEL CONDUIT
RTU	REMOTE TERMINAL UNIT
RVAT	REDUCED VOLTAGE AUTO TRANSFORMER
RVYD	REDUCED VOLTAGE WYE DELTA
SCE	SOUTHERN CALIFORNIA EDISON
SEC	SECONDARY
SEL	SELECTOR
SP	SPARE
SPEC	SPECIFICATION
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SS	STAINLESS STEEL
SSRV	SOLID STATE REDUCED VOLTAGE STARTER
ST	SHUNT TRIP
STA	STATION
STL	STEEL
STP	SHIELDED TWISTED PAIR
STR	STARTER
STT	SHIELDED TWISTED TRIPLET
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
TB	TERMINAL BOX
TEL	TELEPHONE
TEMP	TEMPERATURE
TERM	TERMINAL
TM	TELEMETRY
TS	TEMPERATURE SWITCH
TS2W	TWO SPEED TWO WINDING
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TW/SH	TWISTED SHIELDED
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLTS
W	WATTS
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
ZS	POSITION SWITCH OR LIMIT SWITCH
3W	THREE WIRE
4W	FOUR WIRE

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: FEBRUARY 2022 | DESIGN: GG
JOB NO.: 22-02-0019 | DRAWN: CADD
CHECKED: GG

REGISTERED PROFESSIONAL ENGINEER GERALD L. GREEN No. E15691 Exp. 6/30/22 ELECTRICAL STATE OF CALIFORNIA

RYAN GALLAGHER	74805 RCE NO.	XX/XX/XX DATE
TANNER BENNETT	81334 RCE NO.	XX/XX/XX DATE

GERRY GREEN INC. Consulting Electrical Engineers
2734 Loker Ave West, Ste M, Carlsbad, CA 92011 Tel. (619) 962-2356

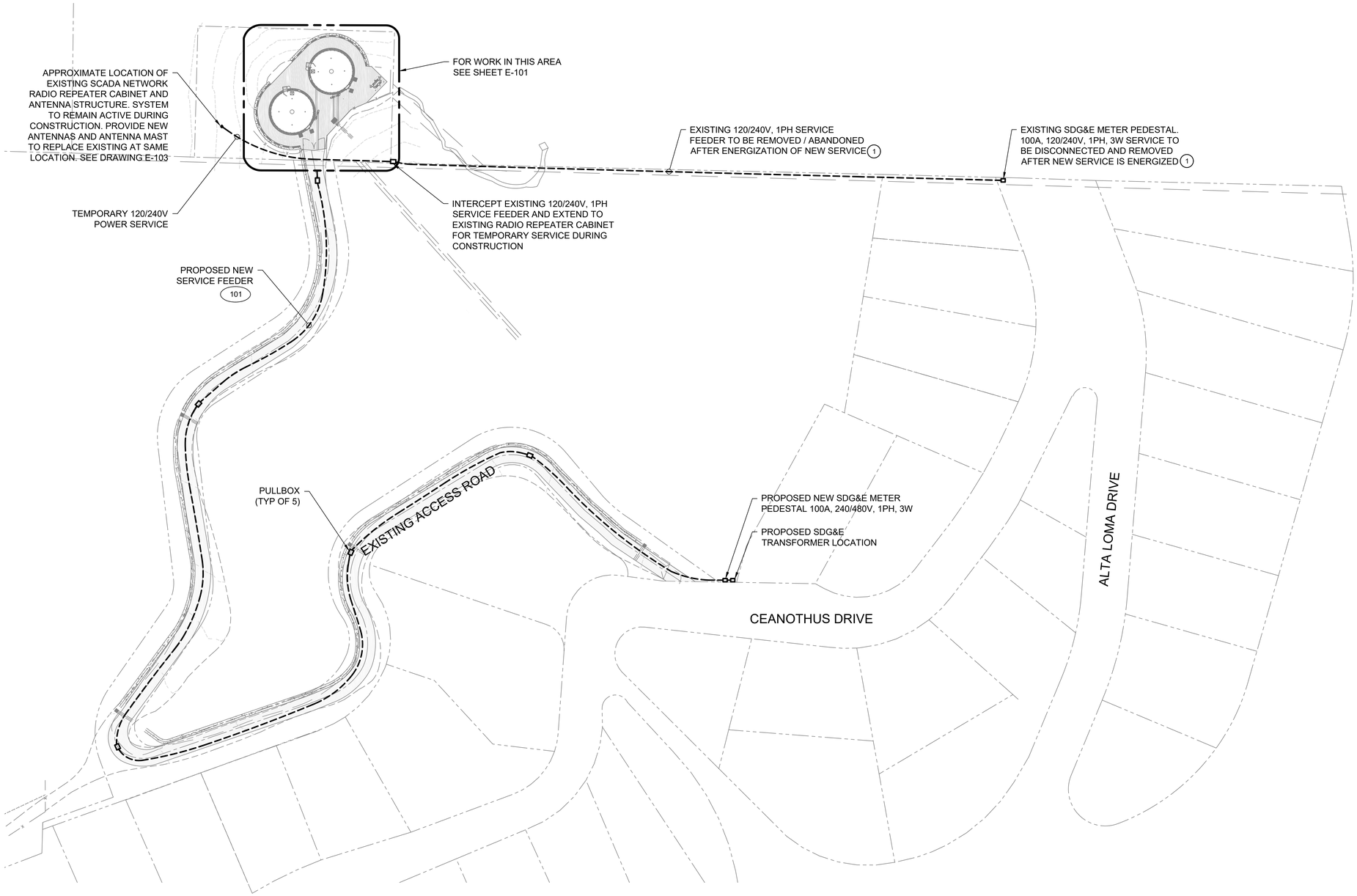
SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
STANDARD ELECTRICAL SYMBOLS AND ABBREVIATIONS

E-001
SHEET X OF XX SHEETS

DWG Z:\0-GERRY GREEN IN\MAIN Projects\SCWD Tank 2B\ELECTRICAL\E-001.dwg Layout Name: E-001 - Plotted by: Andrew Herrera Date: 2/15/2022 - 11:08 AM

NOTES

(1) EXISTING 120/240V, 1PH, 3W SERVICE TO BE UTILIZED FOR TEMPORARY POWER TO EXISTING RADIO REPEATER SYSTEM DURING CONSTRUCTION.



SITE UTILITY SERVICE PLAN

SCALE: 1" = 40'

N

0 40' 80'

DWG: Z:\0-GERRY GREEN INC\MKN Projects\SCWD Tank 2B\ELECTRICAL\E-100.dwg Layout Name: E-100 - Plotted by: Andrew Herrera Date: 2/15/2022 - 11:08 AM

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: FEBRUARY 2022 | DESIGN: GG
JOB NO.: 22-02-0019 | DRAWN: CADD
CHECKED: GG

REGISTERED PROFESSIONAL ENGINEER GERALD L. GREEN No. E15691 Exp. 6/30/22 ELECTRICAL STATE OF CALIFORNIA

RYAN GALLAGHER — 74805 RCE NO. — XX/XX/XX DATE

TANNER BENNETT — 81334 RCE NO. — XX/XX/XX DATE

GERRY GREEN INC. Consulting Electrical Engineers
2734 Loker Ave West, Ste M, Carlsbad, CA 92011 Tel. (619) 962-2356

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
SITE UTILITY SERVICE PLAN

E-100
SHEET X
OF XX SHEETS

NOTES
1. X.

TO SCADA ANTENNAS. SEE SHEET E-100 FOR LOCATION

TANK 1

TANK 2

ULTRASONIC LEVEL SENSOR

HATCH INTRUSION LIMIT SWITCH

24"X36" PULLBOX

202 203

204 205

GFI, WP

105

TO PNL 'A'

PROPOSED NEW SERVICE FEEDER

101

FOR CONTINUATION SEE SHEET E-100

MAIN DISCONNECT

102

10KVA TRANSFORMER

103

PANEL 'A'

106

SCADA RTU PANEL

TO PNL 'A'

104

POLE MOUNTED LED LIGHT FIXTURE (TYP OF 2)

GFI, WP

TO RTU

201

ALTITUDE VALVE POSITION SWITCH

75.41' S01° 30' 33"E

74.35' S01° 30' 32.84"W

150.00' N01° 33' 44.85"E

0 5' 10'

SITE ELECTRICAL PLAN

SCALE: 1" = 5'-0"

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: FEBRUARY 2022 | DESIGN: GG
JOB NO.: 22-02-0019 | DRAWN: CADD
CHECKED: GG

REGISTERED PROFESSIONAL ENGINEER GERALD L. GREEN No. E15691 Exp. 6/30/22 ELECTRICAL STATE OF CALIFORNIA

RYAN GALLAGHER — 74805 RCE NO. — XX/XX/XX DATE
TANNER BENNETT — 81334 RCE NO. — XX/XX/XX DATE

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2734 Loker Ave West, Ste M, Carlsbad, CA 92011 Tel. (619) 962-2356

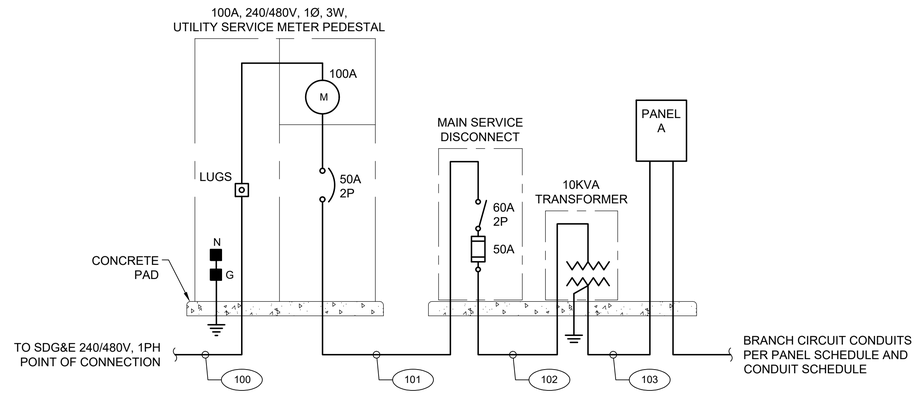
SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
SITE ELECTRICAL PLAN

SHEET E-101
OF XX SHEETS

DWG: Z:\GERRY GREEN INC\WKN Projects\SCWD Tank 2B\ELECTRICAL\E-101.dwg Layout Name: E-101 - Plotted by: Andrew Herrera Date: 2/15/2022 - 11:09 AM

CONDUIT NO.	CONDUIT SIZE	FROM	TO	CABLE QTY.	CABLE SIZE	CABLE GND. *	VOLTAGE		REMARKS
100	3"	SDG&E POINT OF CONNECTION	UTILITY METER PEDESTAL	-	-	-	-	-	C.O. PER SDG&E REQUIREMENTS
101	2"	UTILITY METER PEDESTAL	MAIN DISCONNECT	2	#2	#8	480V	POWER	
102	1"	MAIN DISCONNECT	10KVA TRANSFORMER	2	#6	#8	480V	POWER	
103	1"	10KVA TRANSFORMER	PANEL 'A'	3	#6	#8	240V	POWER	
104	1"	PANEL 'A'	LIGHT POLE #1	4	#10	#10	120V	POWER	
105	1"	PANEL 'A'	LIGHT POLE #2	4	#10	#10	120V	POWER	
106	1"	PANEL 'A'	SCADA RTU	2	#10	#10	120V	POWER	
201	1"	SCADA RTU	ALTITUDE VALVE LS	2	#14	#14		CONTROL	POSITION SWITCH
202	1"	SCADA RTU	TANK #1 LEVEL SENSOR	1	-	-		SIGNAL	MANUFACTURER CABLE
203	1"	SCADA RTU	TANK #1 HATCH IS	2	#14	#14		CONTROL	INTRUSION SWITCH
204	1"	SCADA RTU	TANK #2 LEVEL SENSOR	1	-	-		SIGNAL	MANUFACTURERS CABLE
203	1"	SCADA RTU	TANK #2 HATCH IS	2	#14	#14		CONTROL	INTRUSION SWITCH

*-ONE GROUND CONDUCTOR PER CONDUIT



SINGLE LINE DIAGRAM

MOUNTING PEDESTAL — PANEL 'A' — 10,000 A.I.C. SYM.

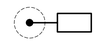
120/240 VOLT 1Ø PHASE 3W WIRE — MAIN 50A MCB — BUS 100A CU

LOCATION	WATTAGE ØA	WATTAGE ØB	REC	LTG	POLE	BKR	CKT NO.	ØA ØB	CKT NO.	BKR	POLE	LTG	REC	WATTAGE ØA	WATTAGE ØB	LOCATION
SCADA PANEL	1500				1	20	1		2	20	1	2		200		LIGHTS
INSTRUMENTS		500			1	20	3		4	20	1		3		540	RECEPTACLES
SPARE	500				1	20	5		6	20	1			1000		FUTURE
SPARE		500			1	20	7		8	20	1				1000	FUTURE
SPACE	500						9		10							SPACE
SPACE		500					11		12							SPACE
	2500	1500	WATTS/LINE											1200	1540	

ØA= 3700 — ØB= 3040

TOTAL WATTS= 6740 — AMPS/LINE= 30 — LCL AMPS= 35

LIGHTING FIXTURE SCHEDULE

SYMBOL	TAG	DESCRIPTION	FIXTURE WATTS / VOLTAGE	LAMP TYPE NO. OF LAMPS / WATTS	MOUNTING	MANUFACTURER CATALOG NO.
	A	SINGLE PIECE DIE CAST ALUMINUM HOUSING. 700MA, 60LED'S, TYPE IV FORWARD THROW OPTICS. PROVIDE WITH PHOTOCELL AND 20 FOOT POLE. SEE DETAIL 3/E-501.	131W 120VAC	LED 131W	POLE	LITHONIA DSX1-60C-700-40K-T4M-MVOLT-MA-PER-DDBXD

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE FEBRUARY 2022 — JOB NO. 22-02-0019 — DESIGN GG — DRAWN CADD — CHECKED GG

REGISTERED PROFESSIONAL ENGINEER GERALD L. GREEN No. E15691 Exp. 6/30/22 ELECTRICAL STATE OF CALIFORNIA

RYAN GALLAGHER — 74805 RCE NO. — XX/XX/XX DATE

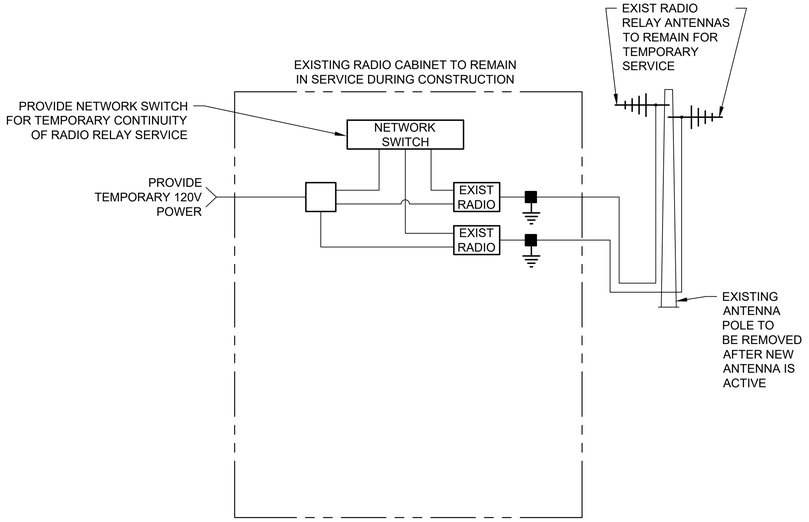
TANNER BENNETT — 81334 RCE NO. — XX/XX/XX DATE

GERRY GREEN INC. Consulting Electrical Engineers
2734 Loker Ave West, Ste M, Carlsbad, CA 92011 Tel. (619) 962-2356

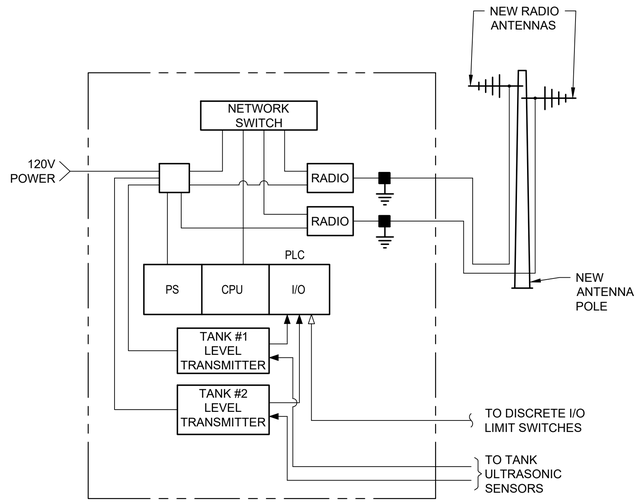
SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
SINGLE LINE DIAGRAM, PANEL AND CONDUIT SCHEDULES

E-102 — SHEET X — OF XX SHEETS

DWG: Z:\0-GERRY GREEN INC\MKN Projects\SCWD Tank 2B\ELECTRICAL\E-102.dwg Layout Name: E-102 - Plotted by: Andrew Herrera Date: 2/15/2022 - 11:09 AM



TEMPORARY NETWORK RADIO, RELAY SERVICE DIAGRAM



SCADA RTU NETWORK TELEMETRY DIAGRAM

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: *FEBRUARY 2022*
JOB NO.: 22-02-0019
DESIGN: GG
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REGISTERED PROFESSIONAL ENGINEER — GERALD L. GREEN — No. E15691 Exp. 6/30/22 — ELECTRICAL — STATE OF CALIFORNIA

RYAN GALLAGHER — 74805 RCE NO. — XX/XX/XX DATE

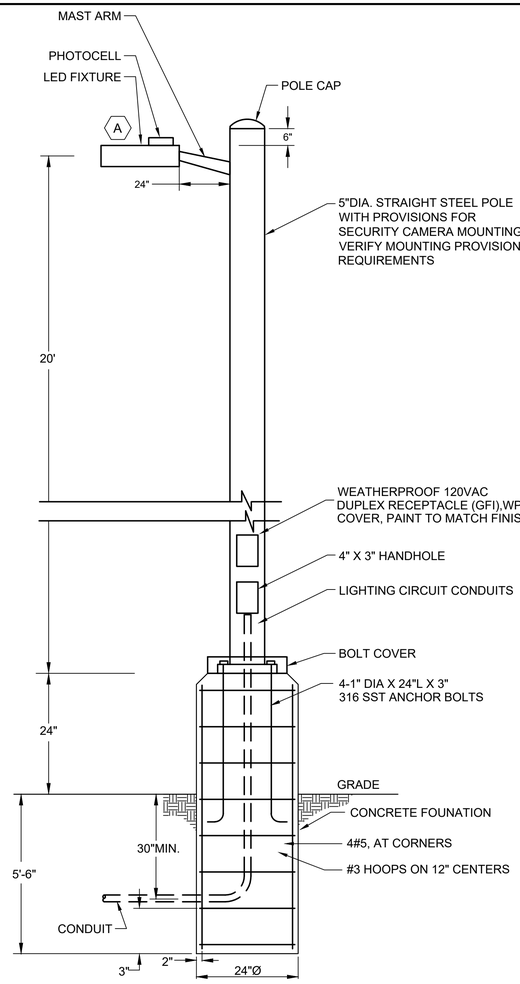
TANNER BENNETT — 81334 RCE NO. — XX/XX/XX DATE

GERRY GREEN INC. Consulting Electrical Engineers
2734 Loker Ave West, Ste M, Carlsbad, CA 92011 Tel. (619) 962-2356

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
NETWORK TELEMETRY DIAGRAMS

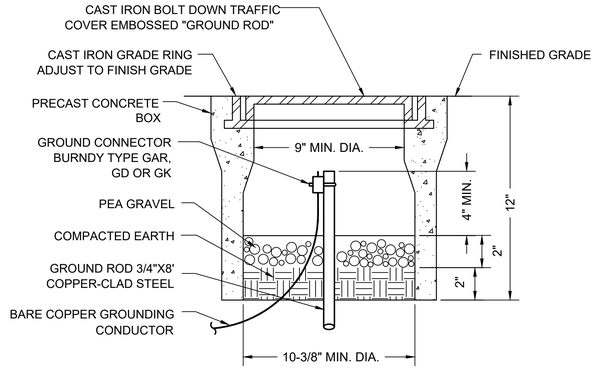
E-103
SHEET X
OF XX SHEETS

DWG: Z:\0-GERRY GREEN INC\MKN Projects\SCWD Tank 2B\ELECTRICAL\E-103.dwg Layout Name: E-103 - Plotted by: Andrew Herrera Date: 2/15/2022 - 11:09 AM



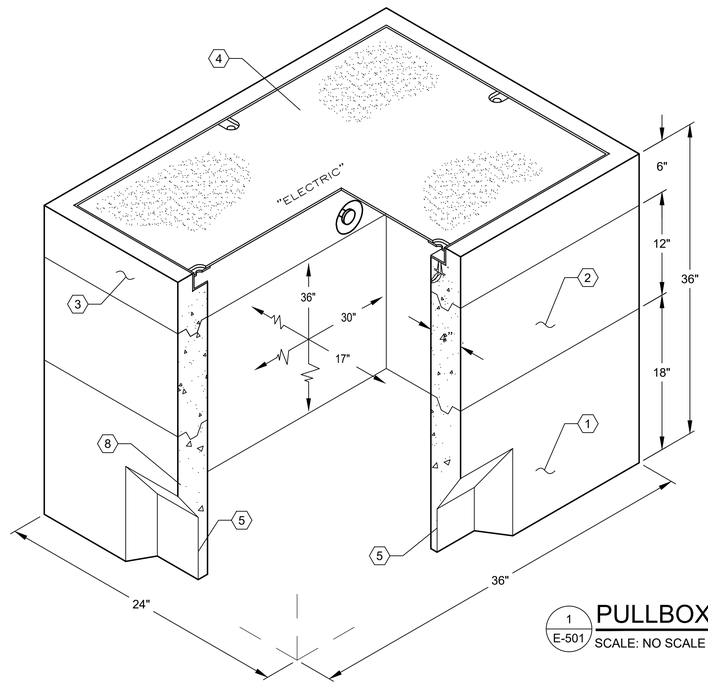
3 / E-501 FIXTURE DETAIL (A) POLE DETAIL

SCALE: NO SCALE



2 / E-501 GROUND ROD AND BOX INSTALLATION

SCALE: NO SCALE



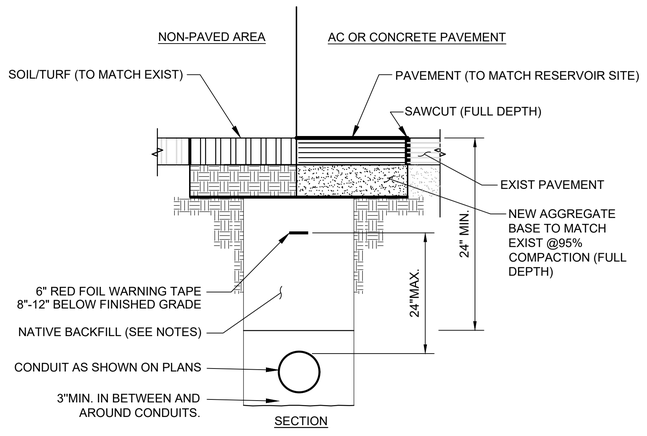
1 / E-501 PULLBOX DETAIL - 17" x 30"

SCALE: NO SCALE

NOTES:

- HANDHOLE DESIGNED IN ACCORDANCE WITH AASHTO HS 20-44 TRAFFIC BRIDGE LOADING USING 5,500 PSI COMPRESSIVE STRENGTH CONCRETE AND 60,000 PSI YIELD STRENGTH ASTM A-706 STEEL REINFORCEMENT.
- HANDHOLE TO BE PLACED ON A MIN. 6" BASE OF CRUSHER RUN FOR EASE OF INSTALLATION AND EVEN LOAD DISTRIBUTION.
- COVER DESIGNED FOR HS 20-44 TRAFFIC BRIDGE LOADING.
- MINIMUM SOIL BEARIUNG CAPACITY IS ASSUMED TO BE 2000 PSF.

(1) 18" LOWER SECTION.
(2) 12" EXTENSION RING.
(3) 6" TOP SECTION W/ANGLE GALVANIZED FRAME.
(4) ONE PIECE TRAFFIC COVER. INCLUDES (4) BOLT DOWNS W/ (4) 1/2"-13NC x 2 1/2" PENTAHEAD S.S. BOLTS, MARKED ELECTRIC" OR "CONTROL" BEAD WELD. PAINTED ALUMINIUM.
(5) KNOCKOUTS AS REQUIRED FOR APPLICATION. LOCATE ONLY AT CONDUIT ENTRIES.

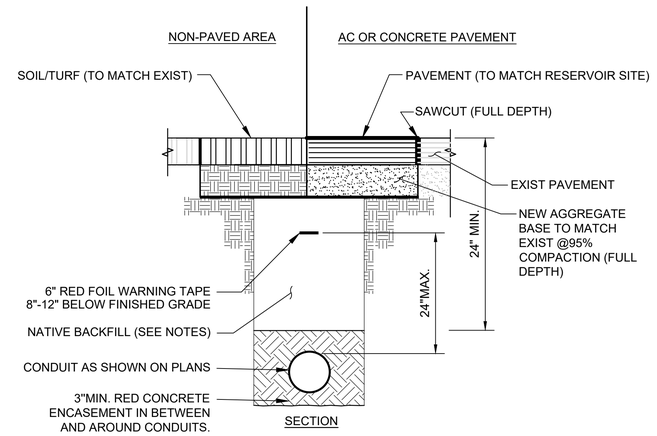


NOTES:

1. NATIVE BACKFILL TO BE COMPACTED TO 90% RELATIVE COMPACTION.
2. SEE ELECTRICAL SHEETS FOR QUANTITY AND SIZE OF ELEC CONDUIT.
3. PROVIDE 6" SEPARATION BETWEEN POWER AND CONTROL (SCADA) CONDUITS.

5 / E-501 TYPICAL NON-ENCASED CONDUIT

SCALE: NO SCALE



NOTES:

1. NATIVE BACKFILL TO BE COMPACTED TO 95% RELATIVE COMPACTION.
2. SEE ELECTRICAL SHEETS FOR QUANTITY AND SIZE OF ELEC.CONDUIT.
3. 3000 PSI CONCRETE ENCASEMENT.
4. PROVIDE 6" SEPARATION BETWEEN POWER AND CONTROL (SCADA) CONDUITS.

4 / E-501 TYPICAL CONCRETE ENCASED CONDUIT

SCALE: NO SCALE

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: FEBRUARY 2022 | DESIGN: GG
JOB NO.: 22-02-0019 | DRAWN: CADD
CHECKED: GG

REGISTERED PROFESSIONAL ENGINEER GERALD L. GREEN No. E15691 Exp. 6/30/22 ELECTRICAL STATE OF CALIFORNIA

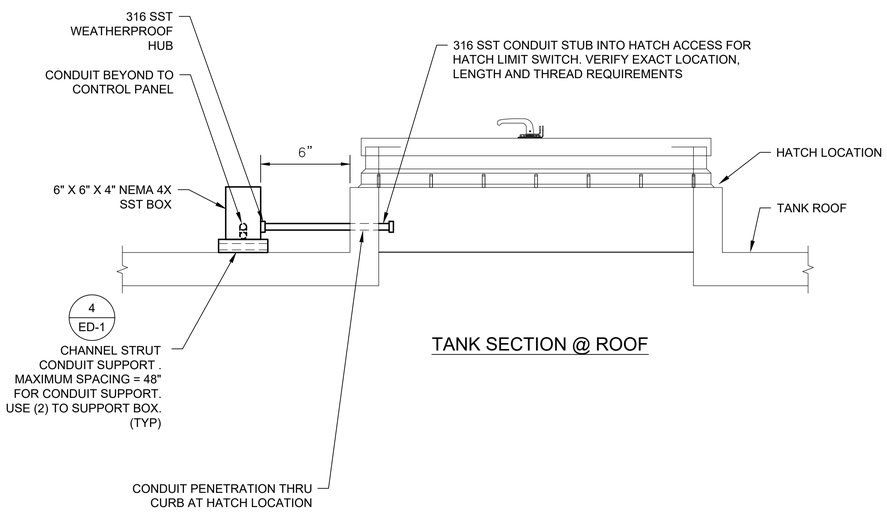
RYAN GALLAGHER	74805 RCE NO.	XX/XX/XX DATE
TANNER BENNETT	81334 RCE NO.	XX/XX/XX DATE

GERRY GREEN INC. Consulting Electrical Engineers
2734 Loker Ave West, Ste M, Carlsbad, CA 92011 Tel. (619) 962-2356

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
DETAILS 1

E-501 | SHEET X | OF XX SHEETS

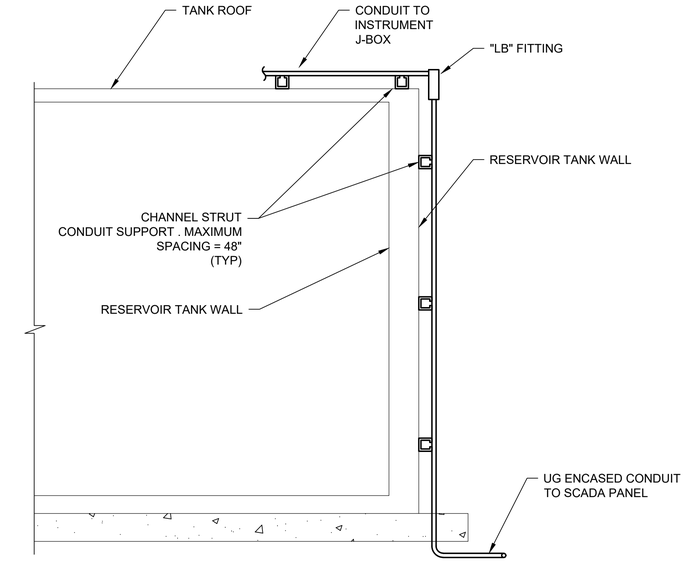
DWG: Z:\0-GERRY GREEN INC\MAIN Projects\SCWD Tank 2B\ELECTRICAL\E-501.dwg Layout Name: E-501 - Plotted by: Andrew Herrera Date: 2/15/2022 - 11:19 AM



TANK SECTION @ ROOF

2 E-502 RESERVOIR ROOF J-BOX DETAIL

SCALE: NO SCALE



TANK SECTION @ WALL

1 E-502 CONDUIT ON RESERVOIR DETAIL

SCALE: NO SCALE

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: FEBRUARY 2022
JOB NO.: 22-02-0019
DESIGN: GG
DRAWN: CADD
CHECKED: GG

REGISTERED PROFESSIONAL ENGINEER
GERALD L. GREEN
No. E15691
Exp. 6/30/22
ELECTRICAL
STATE OF CALIFORNIA

RYAN GALLAGHER — 74805 RCE NO. — XX/XX/XX DATE
TANNER BENNETT — 81334 RCE NO. — XX/XX/XX DATE

GERRY GREEN INC. Consulting Electrical Engineers
2734 Loker Ave West, Ste M, Carlsbad, CA 92011 Tel. (619) 962-2356

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
DETAILS 2

E-502
SHEET X OF XX SHEETS

DWG: Z:\0-GERRY GREEN INC\MKN Projects\SCWD Tank 2B\ELECTRICAL\E-502.dwg Layout Name: E-502 - Plotted by: Andrew Herrera Date: 2/15/2022 - 11:10 AM

RESERVED FOR CATHODIC
PROTECTION DETAILS

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: *FEBRUARY 2022*
JOB NO.: 22-02-0019
DESIGN: TB, PA
DRAWN: RR
CHECKED: JN

REGISTERED PROFESSIONAL ENGINEER — RYAN GALLAGHER — No. C 74805 — Expires 12/31/22 — CIVIL — STATE OF CALIFORNIA

RYAN GALLAGHER	74805 RCE NO.	XX/XX/XX DATE
TANNER BENNETT	81334 RCE NO.	XX/XX/XX DATE

mkn
16310 Bake Parkway
Irvine, Ca. 92618 (714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
CATHODIC PROTECTION DETAILS 1

CP-101
SHEET 32 OF 33 SHEETS

50% DESIGN SUBMITTAL-NOT FOR CONSTRUCTION

DWG: \\192.168.1.50\Projects\South Coast Water District\SCWD-2021-004 Reservoir 2B Design Services\300 Engineering\301 CAD\Plansets\CP-101.dwg Layout Name: C-003 - Plotted by: Richard Robison Date: 2/17/2022 - 3:28 PM

RESERVED FOR CATHODIC
PROTECTION DETAILS

REV.	DATE	BY	DESCRIPTON	APPROVED	DATE

DATE: *FEBRUARY 2022*
JOB NO.: 22-02-0019
DESIGN: TB, PA
DRAWN: RR
CHECKED: JN

REGISTERED PROFESSIONAL ENGINEER — RYAN GALLAGHER — No. C 74805 — Expires 12/31/22 — CIVIL — STATE OF CALIFORNIA

RYAN GALLAGHER	74805 RCE NO.	XX/XX/XX DATE
TANNER BENNETT	81334 RCE NO.	XX/XX/XX DATE

mkn
16310 Bake Parkway
Irvine, Ca. 92618 (714) 213-9758

SOUTH COAST WATER DISTRICT
RESERVOIR 2B REPLACEMENT PROJECT
CATHODIC PROTECTION DETAILS 2

CP-102
SHEET 33 OF 33 SHEETS

50% DESIGN SUBMITTAL-NOT FOR CONSTRUCTION

DWG: \\192.168.1.50\Projects\South Coast Water District\SCWD-2021-004 Reservoir 2B Design Services\300 Engineering\301 CAD\Plansets\CP-102.dwg Layout Name: C-003 - Plotted by: Richard Robison Date: 2/17/2022 - 3:27 PM

Appendix B

Air Quality and Greenhouse Gas Emissions Modeling

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

SCWD Reservoir 2B Replacement Project

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.06	Acre	1.06	46,173.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2023
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project in Laguna Beach, SCAQMD. No increase in electricity usage.

Land Use - x

Construction Phase - Construction schedule provided by MKN

Off-road Equipment -

Off-road Equipment - Equipment list provided by MKN

Off-road Equipment - Equipment list provided by MKN

Off-road Equipment - Equipment list provided by MKN

Off-road Equipment - Equipment list provided by MKN

Off-road Equipment - Equipment list provided by MKN

Trips and VMT - Trip estimates provided by MKN

Demolition - Surface footprint of tank

Grading - Information provided by MKN

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Vehicle Trips -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - No architectural coatings

Energy Use -

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	2770	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	200.00	100.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	13.00
tblConstructionPhase	NumDays	2.00	28.00
tblGrading	AcresOfGrading	26.25	28.00
tblGrading	MaterialExported	0.00	170.00
tblGrading	MaterialImported	0.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	HaulingTripNumber	3.00	30.00

2.0 Emissions Summary

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.2024	42.2328	31.8956	0.0755	13.3556	1.7888	15.1444	6.5040	1.6605	8.1645	0.0000	7,280.3398	7,280.3398	2.0369	0.0684	7,337.0136
2023	1.9196	14.0347	16.4159	0.0301	0.2636	0.5959	0.8595	0.0711	0.5786	0.6496	0.0000	2,771.3559	2,771.3559	0.4475	0.0273	2,790.6838
Maximum	**4.2024**	**42.2328**	**31.8956**	**0.0755**	**13.3556**	**1.7888**	**15.1444**	**6.5040**	**1.6605**	**8.1645**	**0.0000**	**7,280.3398**	**7,280.3398**	**2.0369**	**0.0684**	**7,337.0136**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.2024	42.2328	31.8956	0.0755	6.2700	1.7888	8.0588	2.9958	1.6605	4.6563	0.0000	7,280.3398	7,280.3398	2.0369	0.0684	7,337.0136
2023	1.9196	14.0347	16.4159	0.0301	0.2636	0.5959	0.8595	0.0711	0.5786	0.6496	0.0000	2,771.3559	2,771.3559	0.4475	0.0273	2,790.6838
Maximum	**4.2024**	**42.2328**	**31.8956**	**0.0755**	**6.2700**	**1.7888**	**8.0588**	**2.9958**	**1.6605**	**4.6563**	**0.0000**	**7,280.3398**	**7,280.3398**	**2.0369**	**0.0684**	**7,337.0136**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	52.03	0.00	44.27	53.36	0.00	39.80	0.00	0.00	0.00	0.00	0.00	0.00

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0164	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.3000e-004	2.3000e-004	0.0000		2.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0164**	**0.0000**	**1.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.3000e-004**	**2.3000e-004**	**0.0000**	**0.0000**	**2.5000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0164	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.3000e-004	2.3000e-004	0.0000		2.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0164**	**0.0000**	**1.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.3000e-004**	**2.3000e-004**	**0.0000**	**0.0000**	**2.5000e-004**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/25/2022	7/29/2022	5	5	
2	Site Preparation	Site Preparation	8/1/2022	9/7/2022	5	28	
3	Grading	Grading	8/18/2022	8/31/2022	5	10	
4	Tank Installation	Building Construction	10/3/2022	2/17/2023	5	100	
5	Site Restoration	Paving	2/20/2023	3/8/2023	5	13	

Acres of Grading (Site Preparation Phase): 28

Acres of Grading (Grading Phase): 5

Acres of Paving: 1.06

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Aerial Lifts	1	8.00	63	0.31
Demolition	Air Compressors	2	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rough Terrain Forklifts	1	8.00	100	0.40
Demolition	Skid Steer Loaders	1	8.00	65	0.37

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Bore/Drill Rigs	1	8.00	221	0.50
Grading	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Excavators	1	8.00	158	0.38
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rough Terrain Forklifts	1	8.00	100	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Tank Installation	Aerial Lifts	1	4.00	63	0.31
Tank Installation	Air Compressors	2	8.00	78	0.48
Tank Installation	Cement and Mortar Mixers	1	8.00	9	0.56
Tank Installation	Cranes	1	6.00	231	0.29
Tank Installation	Plate Compactors	1	8.00	8	0.43
Tank Installation	Rough Terrain Forklifts	1	6.00	100	0.40
Tank Installation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Tank Installation	Welders	3	8.00	46	0.45
Site Restoration	Rough Terrain Forklifts	1	8.00	100	0.40
Site Restoration	Skid Steer Loaders	1	8.00	65	0.37
Site Restoration	Tractors/Loaders/Backhoes	1	8.00	97	0.37

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	20.00	0.00	30.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	23.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	23.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Tank Installation	11	19.00	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1391	0.0000	0.1391	0.0211	0.0000	0.0211			0.0000			0.0000
Off-Road	1.4878	12.9789	18.7636	0.0297		0.6407	0.6407		0.6188	0.6188		2,841.2126	2,841.2126	0.5657		2,855.3547
Total	**1.4878**	**12.9789**	**18.7636**	**0.0297**	**0.1391**	**0.6407**	**0.7797**	**0.0211**	**0.6188**	**0.6399**		**2,841.2126**	**2,841.2126**	**0.5657**		**2,855.3547**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0247	0.9773	0.2279	3.6300e-003	0.1050	7.8400e-003	0.1128	0.0288	7.5000e-003	0.0363		398.4511	398.4511	0.0214	0.0633	417.8349
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0725	0.0530	0.6901	1.9100e-003	0.2236	1.3400e-003	0.2249	0.0593	1.2300e-003	0.0605		193.8611	193.8611	5.4100e-003	5.1900e-003	195.5435
Total	**0.0971**	**1.0303**	**0.9180**	**5.5400e-003**	**0.3285**	**9.1800e-003**	**0.3377**	**0.0881**	**8.7300e-003**	**0.0968**		**592.3122**	**592.3122**	**0.0268**	**0.0684**	**613.3784**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0626	0.0000	0.0626	9.4800e-003	0.0000	9.4800e-003			0.0000			0.0000
Off-Road	1.4878	12.9789	18.7636	0.0297		0.6407	0.6407		0.6188	0.6188	0.0000	2,841.2126	2,841.2126	0.5657		2,855.3547
Total	**1.4878**	**12.9789**	**18.7636**	**0.0297**	**0.0626**	**0.6407**	**0.7032**	**9.4800e-003**	**0.6188**	**0.6283**	**0.0000**	**2,841.2126**	**2,841.2126**	**0.5657**		**2,855.3547**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0247	0.9773	0.2279	3.6300e-003	0.1050	7.8400e-003	0.1128	0.0288	7.5000e-003	0.0363		398.4511	398.4511	0.0214	0.0633	417.8349
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0725	0.0530	0.6901	1.9100e-003	0.2236	1.3400e-003	0.2249	0.0593	1.2300e-003	0.0605		193.8611	193.8611	5.4100e-003	5.1900e-003	195.5435
Total	**0.0971**	**1.0303**	**0.9180**	**5.5400e-003**	**0.3285**	**9.1800e-003**	**0.3377**	**0.0881**	**8.7300e-003**	**0.0968**		**592.3122**	**592.3122**	**0.0268**	**0.0684**	**613.3784**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3306	0.0000	6.3306	3.0111	0.0000	3.0111			0.0000			0.0000
Off-Road	2.0710	21.6337	13.8875	0.0323		0.9184	0.9184		0.8578	0.8578		3,099.3734	3,099.3734	0.8355		3,120.2604
Total	**2.0710**	**21.6337**	**13.8875**	**0.0323**	**6.3306**	**0.9184**	**7.2490**	**3.0111**	**0.8578**	**3.8688**		**3,099.3734**	**3,099.3734**	**0.8355**		**3,120.2604**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.3700e-003	0.1338	0.0312	5.0000e-004	0.0144	1.0700e-003	0.0154	3.9400e-003	1.0300e-003	4.9700e-003		54.5499	54.5499	2.9200e-003	8.6600e-003	57.2036
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0652	0.0477	0.6211	1.7200e-003	0.2012	1.2000e-003	0.2024	0.0534	1.1100e-003	0.0545		174.4750	174.4750	4.8700e-003	4.6700e-003	175.9891
Total	**0.0686**	**0.1815**	**0.6523**	**2.2200e-003**	**0.2156**	**2.2700e-003**	**0.2178**	**0.0573**	**2.1400e-003**	**0.0594**		**229.0248**	**229.0248**	**7.7900e-003**	**0.0133**	**233.1927**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8488	0.0000	2.8488	1.3550	0.0000	1.3550			0.0000			0.0000
Off-Road	2.0710	21.6337	13.8875	0.0323		0.9184	0.9184		0.8578	0.8578	0.0000	3,099.3734	3,099.3734	0.8355		3,120.2604
Total	**2.0710**	**21.6337**	**13.8875**	**0.0323**	**2.8488**	**0.9184**	**3.7672**	**1.3550**	**0.8578**	**2.2127**	**0.0000**	**3,099.3734**	**3,099.3734**	**0.8355**		**3,120.2604**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.3700e-003	0.1338	0.0312	5.0000e-004	0.0144	1.0700e-003	0.0154	3.9400e-003	1.0300e-003	4.9700e-003		54.5499	54.5499	2.9200e-003	8.6600e-003	57.2036
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0652	0.0477	0.6211	1.7200e-003	0.2012	1.2000e-003	0.2024	0.0534	1.1100e-003	0.0545		174.4750	174.4750	4.8700e-003	4.6700e-003	175.9891
Total	**0.0686**	**0.1815**	**0.6523**	**2.2200e-003**	**0.2156**	**2.2700e-003**	**0.2178**	**0.0573**	**2.1400e-003**	**0.0594**		**229.0248**	**229.0248**	**7.7900e-003**	**0.0133**	**233.1927**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9795	20.3566	16.5622	0.0388		0.8666	0.8666		0.7992	0.7992		3,729.0013	3,729.0013	1.1874		3,758.6855
Total	**1.9795**	**20.3566**	**16.5622**	**0.0388**	**6.5523**	**0.8666**	**7.4189**	**3.3675**	**0.7992**	**4.1667**		**3,729.0013**	**3,729.0013**	**1.1874**		**3,758.6855**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0833	0.0610	0.7936	2.1900e-003	0.2571	1.5400e-003	0.2586	0.0682	1.4100e-003	0.0696		222.9402	222.9402	6.2200e-003	5.9700e-003	224.8750
Total	**0.0833**	**0.0610**	**0.7936**	**2.1900e-003**	**0.2571**	**1.5400e-003**	**0.2586**	**0.0682**	**1.4100e-003**	**0.0696**		**222.9402**	**222.9402**	**6.2200e-003**	**5.9700e-003**	**224.8750**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.9795	20.3566	16.5622	0.0388		0.8666	0.8666		0.7992	0.7992	0.0000	3,729.0013	3,729.0013	1.1874		3,758.6855
Total	**1.9795**	**20.3566**	**16.5622**	**0.0388**	**2.9486**	**0.8666**	**3.8151**	**1.5154**	**0.7992**	**2.3145**	**0.0000**	**3,729.0013**	**3,729.0013**	**1.1874**		**3,758.6855**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0833	0.0610	0.7936	2.1900e-003	0.2571	1.5400e-003	0.2586	0.0682	1.4100e-003	0.0696		222.9402	222.9402	6.2200e-003	5.9700e-003	224.8750
Total	**0.0833**	**0.0610**	**0.7936**	**2.1900e-003**	**0.2571**	**1.5400e-003**	**0.2586**	**0.0682**	**1.4100e-003**	**0.0696**		**222.9402**	**222.9402**	**6.2200e-003**	**5.9700e-003**	**224.8750**

3.5 Tank Installation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9797	14.5494	15.8036	0.0269		0.6755	0.6755		0.6561	0.6561		2,434.6348	2,434.6348	0.4480		2,445.8359
Total	**1.9797**	**14.5494**	**15.8036**	**0.0269**		**0.6755**	**0.6755**		**0.6561**	**0.6561**		**2,434.6348**	**2,434.6348**	**0.4480**		**2,445.8359**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Tank Installation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0143	0.3885	0.1322	1.5300e-003	0.0512	3.9100e-003	0.0551	0.0148	3.7400e-003	0.0185		164.6179	164.6179	5.4900e-003	0.0239	171.8730
Worker	0.0688	0.0504	0.6556	1.8100e-003	0.2124	1.2700e-003	0.2136	0.0563	1.1700e-003	0.0575		184.1680	184.1680	5.1400e-003	4.9300e-003	185.7663
Total	**0.0832**	**0.4389**	**0.7878**	**3.3400e-003**	**0.2636**	**5.1800e-003**	**0.2688**	**0.0711**	**4.9100e-003**	**0.0760**		**348.7859**	**348.7859**	**0.0106**	**0.0288**	**357.6393**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9797	14.5494	15.8036	0.0269		0.6755	0.6755		0.6561	0.6561	0.0000	2,434.6348	2,434.6348	0.4480		2,445.8359
Total	**1.9797**	**14.5494**	**15.8036**	**0.0269**		**0.6755**	**0.6755**		**0.6561**	**0.6561**	**0.0000**	**2,434.6348**	**2,434.6348**	**0.4480**		**2,445.8359**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Tank Installation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0143	0.3885	0.1322	1.5300e-003	0.0512	3.9100e-003	0.0551	0.0148	3.7400e-003	0.0185		164.6179	164.6179	5.4900e-003	0.0239	171.8730
Worker	0.0688	0.0504	0.6556	1.8100e-003	0.2124	1.2700e-003	0.2136	0.0563	1.1700e-003	0.0575		184.1680	184.1680	5.1400e-003	4.9300e-003	185.7663
Total	**0.0832**	**0.4389**	**0.7878**	**3.3400e-003**	**0.2636**	**5.1800e-003**	**0.2688**	**0.0711**	**4.9100e-003**	**0.0760**		**348.7859**	**348.7859**	**0.0106**	**0.0288**	**357.6393**

3.5 Tank Installation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8471	13.6853	15.6930	0.0269		0.5930	0.5930		0.5758	0.5758		2,434.9163	2,434.9163	0.4376		2,445.8564
Total	**1.8471**	**13.6853**	**15.6930**	**0.0269**		**0.5930**	**0.5930**		**0.5758**	**0.5758**		**2,434.9163**	**2,434.9163**	**0.4376**		**2,445.8564**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Tank Installation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4700e-003	0.3048	0.1180	1.4600e-003	0.0512	1.7000e-003	0.0529	0.0148	1.6300e-003	0.0164		157.1083	157.1083	5.2500e-003	0.0228	164.0232
Worker	0.0641	0.0446	0.6048	1.7500e-003	0.2124	1.2000e-003	0.2136	0.0563	1.1000e-003	0.0574		179.3313	179.3313	4.6200e-003	4.5600e-003	180.8043
Total	**0.0725**	**0.3494**	**0.7228**	**3.2100e-003**	**0.2636**	**2.9000e-003**	**0.2665**	**0.0711**	**2.7300e-003**	**0.0738**		**336.4396**	**336.4396**	**9.8700e-003**	**0.0273**	**344.8274**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8471	13.6853	15.6930	0.0269		0.5930	0.5930		0.5758	0.5758	0.0000	2,434.9163	2,434.9163	0.4376		2,445.8564
Total	**1.8471**	**13.6853**	**15.6930**	**0.0269**		**0.5930**	**0.5930**		**0.5758**	**0.5758**	**0.0000**	**2,434.9163**	**2,434.9163**	**0.4376**		**2,445.8564**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Tank Installation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4700e-003	0.3048	0.1180	1.4600e-003	0.0512	1.7000e-003	0.0529	0.0148	1.6300e-003	0.0164		157.1083	157.1083	5.2500e-003	0.0228	164.0232
Worker	0.0641	0.0446	0.6048	1.7500e-003	0.2124	1.2000e-003	0.2136	0.0563	1.1000e-003	0.0574		179.3313	179.3313	4.6200e-003	4.5600e-003	180.8043
Total	**0.0725**	**0.3494**	**0.7228**	**3.2100e-003**	**0.2636**	**2.9000e-003**	**0.2665**	**0.0711**	**2.7300e-003**	**0.0738**		**336.4396**	**336.4396**	**9.8700e-003**	**0.0273**	**344.8274**

3.6 Site Restoration - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3222	3.7998	5.9040	8.6400e-003		0.1500	0.1500		0.1380	0.1380		835.8662	835.8662	0.2703		842.6246
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3222**	**3.7998**	**5.9040**	**8.6400e-003**		**0.1500**	**0.1500**		**0.1380**	**0.1380**		**835.8662**	**835.8662**	**0.2703**		**842.6246**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Site Restoration - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0270	0.0188	0.2547	7.4000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		75.5079	75.5079	1.9500e-003	1.9200e-003	76.1281
Total	**0.0270**	**0.0188**	**0.2547**	**7.4000e-004**	**0.0894**	**5.0000e-004**	**0.0899**	**0.0237**	**4.6000e-004**	**0.0242**		**75.5079**	**75.5079**	**1.9500e-003**	**1.9200e-003**	**76.1281**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3222	3.7998	5.9040	8.6400e-003		0.1500	0.1500		0.1380	0.1380	0.0000	835.8662	835.8662	0.2703		842.6246
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3222**	**3.7998**	**5.9040**	**8.6400e-003**		**0.1500**	**0.1500**		**0.1380**	**0.1380**	**0.0000**	**835.8662**	**835.8662**	**0.2703**		**842.6246**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Site Restoration - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0270	0.0188	0.2547	7.4000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		75.5079	75.5079	1.9500e-003	1.9200e-003	76.1281
Total	**0.0270**	**0.0188**	**0.2547**	**7.4000e-004**	**0.0894**	**5.0000e-004**	**0.0899**	**0.0237**	**4.6000e-004**	**0.0242**		**75.5079**	**75.5079**	**1.9500e-003**	**1.9200e-003**	**76.1281**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0164	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.3000e-004	2.3000e-004	0.0000		2.5000e-004
Unmitigated	0.0164	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.3000e-004	2.3000e-004	0.0000		2.5000e-004

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0164					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.3000e-004	2.3000e-004	0.0000		2.5000e-004
Total	**0.0164**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.3000e-004**	**2.3000e-004**	**0.0000**		**2.5000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0164					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.3000e-004	2.3000e-004	0.0000		2.5000e-004
Total	**0.0164**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.3000e-004**	**2.3000e-004**	**0.0000**		**2.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

SCWD Reservoir 2B Replacement Project

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.06	Acre	1.06	46,173.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2023
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project in Laguna Beach, SCAQMD. No increase in electricity usage.

Land Use - x

Construction Phase - Construction schedule provided by MKN

Off-road Equipment -

Off-road Equipment - Equipment list provided by MKN

Off-road Equipment - Equipment list provided by MKN

Off-road Equipment - Equipment list provided by MKN

Off-road Equipment - Equipment list provided by MKN

Off-road Equipment - Equipment list provided by MKN

Trips and VMT - Trip estimates provided by MKN

Demolition - Surface footprint of tank

Grading - Information provided by MKN

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Vehicle Trips -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - No architectural coatings

Energy Use -

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	2770	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	200.00	100.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	13.00
tblConstructionPhase	NumDays	2.00	28.00
tblGrading	AcresOfGrading	26.25	28.00
tblGrading	MaterialExported	0.00	170.00
tblGrading	MaterialImported	0.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	HaulingTripNumber	3.00	30.00

2.0 Emissions Summary

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.1951	42.2178	32.0453	0.0758	13.3556	1.7888	15.1444	6.5040	1.6605	8.1645	0.0000	7,304.8548	7,304.8548	2.0367	0.0681	7,361.3418
2023	1.9166	14.0165	16.4757	0.0302	0.2636	0.5959	0.8595	0.0711	0.5785	0.6496	0.0000	2,782.1209	2,782.1209	0.4474	0.0270	2,801.3520
Maximum	**4.1951**	**42.2178**	**32.0453**	**0.0758**	**13.3556**	**1.7888**	**15.1444**	**6.5040**	**1.6605**	**8.1645**	**0.0000**	**7,304.8548**	**7,304.8548**	**2.0367**	**0.0681**	**7,361.3418**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.1951	42.2178	32.0453	0.0758	6.2700	1.7888	8.0588	2.9958	1.6605	4.6563	0.0000	7,304.8548	7,304.8548	2.0367	0.0681	7,361.3418
2023	1.9166	14.0165	16.4757	0.0302	0.2636	0.5959	0.8595	0.0711	0.5785	0.6496	0.0000	2,782.1209	2,782.1209	0.4474	0.0270	2,801.3520
Maximum	**4.1951**	**42.2178**	**32.0453**	**0.0758**	**6.2700**	**1.7888**	**8.0588**	**2.9958**	**1.6605**	**4.6563**	**0.0000**	**7,304.8548**	**7,304.8548**	**2.0367**	**0.0681**	**7,361.3418**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	52.03	0.00	44.27	53.36	0.00	39.80	0.00	0.00	0.00	0.00	0.00	0.00

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0164	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.3000e-004	2.3000e-004	0.0000		2.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0164**	**0.0000**	**1.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.3000e-004**	**2.3000e-004**	**0.0000**	**0.0000**	**2.5000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0164	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.3000e-004	2.3000e-004	0.0000		2.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0164**	**0.0000**	**1.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.3000e-004**	**2.3000e-004**	**0.0000**	**0.0000**	**2.5000e-004**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/25/2022	7/29/2022	5	5	
2	Site Preparation	Site Preparation	8/1/2022	9/7/2022	5	28	
3	Grading	Grading	8/18/2022	8/31/2022	5	10	
4	Tank Installation	Building Construction	10/3/2022	2/17/2023	5	100	
5	Site Restoration	Paving	2/20/2023	3/8/2023	5	13	

Acres of Grading (Site Preparation Phase): 28

Acres of Grading (Grading Phase): 5

Acres of Paving: 1.06

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Aerial Lifts	1	8.00	63	0.31
Demolition	Air Compressors	2	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rough Terrain Forklifts	1	8.00	100	0.40
Demolition	Skid Steer Loaders	1	8.00	65	0.37

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Bore/Drill Rigs	1	8.00	221	0.50
Grading	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Excavators	1	8.00	158	0.38
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rough Terrain Forklifts	1	8.00	100	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Tank Installation	Aerial Lifts	1	4.00	63	0.31
Tank Installation	Air Compressors	2	8.00	78	0.48
Tank Installation	Cement and Mortar Mixers	1	8.00	9	0.56
Tank Installation	Cranes	1	6.00	231	0.29
Tank Installation	Plate Compactors	1	8.00	8	0.43
Tank Installation	Rough Terrain Forklifts	1	6.00	100	0.40
Tank Installation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Tank Installation	Welders	3	8.00	46	0.45
Site Restoration	Rough Terrain Forklifts	1	8.00	100	0.40
Site Restoration	Skid Steer Loaders	1	8.00	65	0.37
Site Restoration	Tractors/Loaders/Backhoes	1	8.00	97	0.37

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	20.00	0.00	30.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	23.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	23.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Tank Installation	11	19.00	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1391	0.0000	0.1391	0.0211	0.0000	0.0211			0.0000			0.0000
Off-Road	1.4878	12.9789	18.7636	0.0297		0.6407	0.6407		0.6188	0.6188		2,841.2126	2,841.2126	0.5657		2,855.3547
Total	**1.4878**	**12.9789**	**18.7636**	**0.0297**	**0.1391**	**0.6407**	**0.7797**	**0.0211**	**0.6188**	**0.6399**		**2,841.2126**	**2,841.2126**	**0.5657**		**2,855.3547**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0254	0.9361	0.2237	3.6300e-003	0.1050	7.8300e-003	0.1128	0.0288	7.4900e-003	0.0363		398.3044	398.3044	0.0214	0.0632	417.6818
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0689	0.0485	0.7634	2.0200e-003	0.2236	1.3400e-003	0.2249	0.0593	1.2300e-003	0.0605		205.8294	205.8294	5.3500e-003	4.8900e-003	207.4211
Total	**0.0942**	**0.9846**	**0.9871**	**5.6500e-003**	**0.3285**	**9.1700e-003**	**0.3377**	**0.0881**	**8.7200e-003**	**0.0968**		**604.1339**	**604.1339**	**0.0267**	**0.0681**	**625.1029**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0626	0.0000	0.0626	9.4800e-003	0.0000	9.4800e-003			0.0000			0.0000
Off-Road	1.4878	12.9789	18.7636	0.0297		0.6407	0.6407		0.6188	0.6188	0.0000	2,841.2126	2,841.2126	0.5657		2,855.3547
Total	**1.4878**	**12.9789**	**18.7636**	**0.0297**	**0.0626**	**0.6407**	**0.7032**	**9.4800e-003**	**0.6188**	**0.6283**	**0.0000**	**2,841.2126**	**2,841.2126**	**0.5657**		**2,855.3547**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0254	0.9361	0.2237	3.6300e-003	0.1050	7.8300e-003	0.1128	0.0288	7.4900e-003	0.0363		398.3044	398.3044	0.0214	0.0632	417.6818
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0689	0.0485	0.7634	2.0200e-003	0.2236	1.3400e-003	0.2249	0.0593	1.2300e-003	0.0605		205.8294	205.8294	5.3500e-003	4.8900e-003	207.4211
Total	**0.0942**	**0.9846**	**0.9871**	**5.6500e-003**	**0.3285**	**9.1700e-003**	**0.3377**	**0.0881**	**8.7200e-003**	**0.0968**		**604.1339**	**604.1339**	**0.0267**	**0.0681**	**625.1029**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3306	0.0000	6.3306	3.0111	0.0000	3.0111			0.0000			0.0000
Off-Road	2.0710	21.6337	13.8875	0.0323		0.9184	0.9184		0.8578	0.8578		3,099.3734	3,099.3734	0.8355		3,120.2604
Total	**2.0710**	**21.6337**	**13.8875**	**0.0323**	**6.3306**	**0.9184**	**7.2490**	**3.0111**	**0.8578**	**3.8688**		**3,099.3734**	**3,099.3734**	**0.8355**		**3,120.2604**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.4700e-003	0.1282	0.0306	5.0000e-004	0.0144	1.0700e-003	0.0154	3.9400e-003	1.0300e-003	4.9600e-003		54.5298	54.5298	2.9300e-003	8.6600e-003	57.1826
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0620	0.0436	0.6871	1.8200e-003	0.2012	1.2000e-003	0.2024	0.0534	1.1100e-003	0.0545		185.2465	185.2465	4.8100e-003	4.4000e-003	186.6790
Total	**0.0655**	**0.1718**	**0.7177**	**2.3200e-003**	**0.2156**	**2.2700e-003**	**0.2178**	**0.0573**	**2.1400e-003**	**0.0594**		**239.7763**	**239.7763**	**7.7400e-003**	**0.0131**	**243.8616**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8488	0.0000	2.8488	1.3550	0.0000	1.3550			0.0000			0.0000
Off-Road	2.0710	21.6337	13.8875	0.0323		0.9184	0.9184		0.8578	0.8578	0.0000	3,099.3734	3,099.3734	0.8355		3,120.2604
Total	**2.0710**	**21.6337**	**13.8875**	**0.0323**	**2.8488**	**0.9184**	**3.7672**	**1.3550**	**0.8578**	**2.2127**	**0.0000**	**3,099.3734**	**3,099.3734**	**0.8355**		**3,120.2604**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.4700e-003	0.1282	0.0306	5.0000e-004	0.0144	1.0700e-003	0.0154	3.9400e-003	1.0300e-003	4.9600e-003		54.5298	54.5298	2.9300e-003	8.6600e-003	57.1826
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0620	0.0436	0.6871	1.8200e-003	0.2012	1.2000e-003	0.2024	0.0534	1.1100e-003	0.0545		185.2465	185.2465	4.8100e-003	4.4000e-003	186.6790
Total	**0.0655**	**0.1718**	**0.7177**	**2.3200e-003**	**0.2156**	**2.2700e-003**	**0.2178**	**0.0573**	**2.1400e-003**	**0.0594**		**239.7763**	**239.7763**	**7.7400e-003**	**0.0131**	**243.8616**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9795	20.3566	16.5622	0.0388		0.8666	0.8666		0.7992	0.7992		3,729.0013	3,729.0013	1.1874		3,758.6855
Total	**1.9795**	**20.3566**	**16.5622**	**0.0388**	**6.5523**	**0.8666**	**7.4189**	**3.3675**	**0.7992**	**4.1667**		**3,729.0013**	**3,729.0013**	**1.1874**		**3,758.6855**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0792	0.0557	0.8779	2.3300e-003	0.2571	1.5400e-003	0.2586	0.0682	1.4100e-003	0.0696		236.7039	236.7039	6.1500e-003	5.6300e-003	238.5343
Total	**0.0792**	**0.0557**	**0.8779**	**2.3300e-003**	**0.2571**	**1.5400e-003**	**0.2586**	**0.0682**	**1.4100e-003**	**0.0696**		**236.7039**	**236.7039**	**6.1500e-003**	**5.6300e-003**	**238.5343**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.9795	20.3566	16.5622	0.0388		0.8666	0.8666		0.7992	0.7992	0.0000	3,729.0013	3,729.0013	1.1874		3,758.6855
Total	**1.9795**	**20.3566**	**16.5622**	**0.0388**	**2.9486**	**0.8666**	**3.8151**	**1.5154**	**0.7992**	**2.3145**	**0.0000**	**3,729.0013**	**3,729.0013**	**1.1874**		**3,758.6855**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0792	0.0557	0.8779	2.3300e-003	0.2571	1.5400e-003	0.2586	0.0682	1.4100e-003	0.0696		236.7039	236.7039	6.1500e-003	5.6300e-003	238.5343
Total	**0.0792**	**0.0557**	**0.8779**	**2.3300e-003**	**0.2571**	**1.5400e-003**	**0.2586**	**0.0682**	**1.4100e-003**	**0.0696**		**236.7039**	**236.7039**	**6.1500e-003**	**5.6300e-003**	**238.5343**

3.5 Tank Installation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9797	14.5494	15.8036	0.0269		0.6755	0.6755		0.6561	0.6561		2,434.6348	2,434.6348	0.4480		2,445.8359
Total	**1.9797**	**14.5494**	**15.8036**	**0.0269**		**0.6755**	**0.6755**		**0.6561**	**0.6561**		**2,434.6348**	**2,434.6348**	**0.4480**		**2,445.8359**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Tank Installation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0146	0.3723	0.1276	1.5300e-003	0.0512	3.8900e-003	0.0551	0.0148	3.7200e-003	0.0185		164.5355	164.5355	5.5100e-003	0.0239	171.7819
Worker	0.0654	0.0460	0.7252	1.9200e-003	0.2124	1.2700e-003	0.2136	0.0563	1.1700e-003	0.0575		195.5380	195.5380	5.0800e-003	4.6500e-003	197.0501
Total	**0.0800**	**0.4183**	**0.8529**	**3.4500e-003**	**0.2636**	**5.1600e-003**	**0.2688**	**0.0711**	**4.8900e-003**	**0.0760**		**360.0734**	**360.0734**	**0.0106**	**0.0285**	**368.8320**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9797	14.5494	15.8036	0.0269		0.6755	0.6755		0.6561	0.6561	0.0000	2,434.6348	2,434.6348	0.4480		2,445.8359
Total	**1.9797**	**14.5494**	**15.8036**	**0.0269**		**0.6755**	**0.6755**		**0.6561**	**0.6561**	**0.0000**	**2,434.6348**	**2,434.6348**	**0.4480**		**2,445.8359**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Tank Installation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0146	0.3723	0.1276	1.5300e-003	0.0512	3.8900e-003	0.0551	0.0148	3.7200e-003	0.0185		164.5355	164.5355	5.5100e-003	0.0239	171.7819
Worker	0.0654	0.0460	0.7252	1.9200e-003	0.2124	1.2700e-003	0.2136	0.0563	1.1700e-003	0.0575		195.5380	195.5380	5.0800e-003	4.6500e-003	197.0501
Total	**0.0800**	**0.4183**	**0.8529**	**3.4500e-003**	**0.2636**	**5.1600e-003**	**0.2688**	**0.0711**	**4.8900e-003**	**0.0760**		**360.0734**	**360.0734**	**0.0106**	**0.0285**	**368.8320**

3.5 Tank Installation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8471	13.6853	15.6930	0.0269		0.5930	0.5930		0.5758	0.5758		2,434.9163	2,434.9163	0.4376		2,445.8564
Total	**1.8471**	**13.6853**	**15.6930**	**0.0269**		**0.5930**	**0.5930**		**0.5758**	**0.5758**		**2,434.9163**	**2,434.9163**	**0.4376**		**2,445.8564**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Tank Installation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8500e-003	0.2904	0.1143	1.4600e-003	0.0512	1.6900e-003	0.0529	0.0148	1.6200e-003	0.0164		156.8247	156.8247	5.2700e-003	0.0227	163.7221
Worker	0.0607	0.0407	0.6683	1.8600e-003	0.2124	1.2000e-003	0.2136	0.0563	1.1000e-003	0.0574		190.3798	190.3798	4.5600e-003	4.2900e-003	191.7735
Total	**0.0695**	**0.3311**	**0.7826**	**3.3200e-003**	**0.2636**	**2.8900e-003**	**0.2665**	**0.0711**	**2.7200e-003**	**0.0738**		**347.2046**	**347.2046**	**9.8300e-003**	**0.0270**	**355.4957**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8471	13.6853	15.6930	0.0269		0.5930	0.5930		0.5758	0.5758	0.0000	2,434.9163	2,434.9163	0.4376		2,445.8564
Total	**1.8471**	**13.6853**	**15.6930**	**0.0269**		**0.5930**	**0.5930**		**0.5758**	**0.5758**	**0.0000**	**2,434.9163**	**2,434.9163**	**0.4376**		**2,445.8564**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Tank Installation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8500e-003	0.2904	0.1143	1.4600e-003	0.0512	1.6900e-003	0.0529	0.0148	1.6200e-003	0.0164		156.8247	156.8247	5.2700e-003	0.0227	163.7221
Worker	0.0607	0.0407	0.6683	1.8600e-003	0.2124	1.2000e-003	0.2136	0.0563	1.1000e-003	0.0574		190.3798	190.3798	4.5600e-003	4.2900e-003	191.7735
Total	**0.0695**	**0.3311**	**0.7826**	**3.3200e-003**	**0.2636**	**2.8900e-003**	**0.2665**	**0.0711**	**2.7200e-003**	**0.0738**		**347.2046**	**347.2046**	**9.8300e-003**	**0.0270**	**355.4957**

3.6 Site Restoration - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3222	3.7998	5.9040	8.6400e-003		0.1500	0.1500		0.1380	0.1380		835.8662	835.8662	0.2703		842.6246
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3222**	**3.7998**	**5.9040**	**8.6400e-003**		**0.1500**	**0.1500**		**0.1380**	**0.1380**		**835.8662**	**835.8662**	**0.2703**		**842.6246**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Site Restoration - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0256	0.0172	0.2814	7.8000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		80.1599	80.1599	1.9200e-003	1.8100e-003	80.7468
Total	**0.0256**	**0.0172**	**0.2814**	**7.8000e-004**	**0.0894**	**5.0000e-004**	**0.0899**	**0.0237**	**4.6000e-004**	**0.0242**		**80.1599**	**80.1599**	**1.9200e-003**	**1.8100e-003**	**80.7468**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3222	3.7998	5.9040	8.6400e-003		0.1500	0.1500		0.1380	0.1380	0.0000	835.8662	835.8662	0.2703		842.6246
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3222**	**3.7998**	**5.9040**	**8.6400e-003**		**0.1500**	**0.1500**		**0.1380**	**0.1380**	**0.0000**	**835.8662**	**835.8662**	**0.2703**		**842.6246**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Site Restoration - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0256	0.0172	0.2814	7.8000e-004	0.0894	5.0000e-004	0.0899	0.0237	4.6000e-004	0.0242		80.1599	80.1599	1.9200e-003	1.8100e-003	80.7468
Total	**0.0256**	**0.0172**	**0.2814**	**7.8000e-004**	**0.0894**	**5.0000e-004**	**0.0899**	**0.0237**	**4.6000e-004**	**0.0242**		**80.1599**	**80.1599**	**1.9200e-003**	**1.8100e-003**	**80.7468**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0164	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.3000e-004	2.3000e-004	0.0000		2.5000e-004
Unmitigated	0.0164	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.3000e-004	2.3000e-004	0.0000		2.5000e-004

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0164					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.3000e-004	2.3000e-004	0.0000		2.5000e-004
Total	**0.0164**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.3000e-004**	**2.3000e-004**	**0.0000**		**2.5000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0164					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.3000e-004	2.3000e-004	0.0000		2.5000e-004
Total	**0.0164**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.3000e-004**	**2.3000e-004**	**0.0000**		**2.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

SCWD Reservoir 2B Replacement Project

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.06	Acre	1.06	46,173.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2023
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project in Laguna Beach, SCAQMD. No increase in electricity usage.

Land Use - x

Construction Phase - Construction schedule provided by MKN

Off-road Equipment -

Off-road Equipment - Equipment list provided by MKN

Off-road Equipment - Equipment list provided by MKN

Off-road Equipment - Equipment list provided by MKN

Off-road Equipment - Equipment list provided by MKN

Off-road Equipment - Equipment list provided by MKN

Trips and VMT - Trip estimates provided by MKN

Demolition - Surface footprint of tank

Grading - Information provided by MKN

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Vehicle Trips -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - No architectural coatings

Energy Use -

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	2770	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	200.00	100.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	10.00	13.00
tblConstructionPhase	NumDays	2.00	28.00
tblGrading	AcresOfGrading	26.25	28.00
tblGrading	MaterialExported	0.00	170.00
tblGrading	MaterialImported	0.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	HaulingTripNumber	3.00	30.00

2.0 Emissions Summary

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1110	0.9298	0.8797	1.7600e-003	0.1352	0.0410	0.1762	0.0627	0.0391	0.1018	0.0000	150.1883	150.1883	0.0310	1.2000e-003	151.3221
2023	0.0358	0.2705	0.3276	5.9000e-004	5.1000e-003	0.0114	0.0165	1.3800e-003	0.0110	0.0124	0.0000	49.4192	49.4192	8.7100e-003	4.5000e-004	49.7698
Maximum	**0.1110**	**0.9298**	**0.8797**	**1.7600e-003**	**0.1352**	**0.0410**	**0.1762**	**0.0627**	**0.0391**	**0.1018**	**0.0000**	**150.1883**	**150.1883**	**0.0310**	**1.2000e-003**	**151.3221**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1110	0.9298	0.8797	1.7600e-003	0.0682	0.0410	0.1092	0.0302	0.0391	0.0693	0.0000	150.1881	150.1881	0.0310	1.2000e-003	151.3220
2023	0.0358	0.2705	0.3276	5.9000e-004	5.1000e-003	0.0114	0.0165	1.3800e-003	0.0110	0.0124	0.0000	49.4191	49.4191	8.7100e-003	4.5000e-004	49.7698
Maximum	**0.1110**	**0.9298**	**0.8797**	**1.7600e-003**	**0.0682**	**0.0410**	**0.1092**	**0.0302**	**0.0391**	**0.0693**	**0.0000**	**150.1881**	**150.1881**	**0.0310**	**1.2000e-003**	**151.3220**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**47.73**	**0.00**	**34.75**	**50.72**	**0.00**	**28.45**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
3	**5-29-2022**	**8-28-2022**	0.3555	0.3555
4	**8-29-2022**	**11-28-2022**	0.4567	0.4567
5	**11-29-2022**	**2-27-2023**	0.4864	0.4864
6	**2-28-2023**	**5-28-2023**	0.0134	0.0134
		Highest	0.4864	0.4864

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.9900e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.9900e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.9900e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.9900e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/25/2022	7/29/2022	5	5	
2	Site Preparation	Site Preparation	8/1/2022	9/7/2022	5	28	
3	Grading	Grading	8/18/2022	8/31/2022	5	10	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Tank Installation	Building Construction	10/3/2022	2/17/2023	5	100	
5	Site Restoration	Paving	2/20/2023	3/8/2023	5	13	

Acres of Grading (Site Preparation Phase): 28

Acres of Grading (Grading Phase): 5

Acres of Paving: 1.06

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Aerial Lifts	1	8.00	63	0.31
Demolition	Air Compressors	2	8.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rough Terrain Forklifts	1	8.00	100	0.40
Demolition	Skid Steer Loaders	1	8.00	65	0.37
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Bore/Drill Rigs	1	8.00	221	0.50
Grading	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Excavators	1	8.00	158	0.38
Grading	Plate Compactors	1	8.00	8	0.43

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Rough Terrain Forklifts	1	8.00	100	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Tank Installation	Aerial Lifts	1	4.00	63	0.31
Tank Installation	Air Compressors	2	8.00	78	0.48
Tank Installation	Cement and Mortar Mixers	1	8.00	9	0.56
Tank Installation	Cranes	1	6.00	231	0.29
Tank Installation	Plate Compactors	1	8.00	8	0.43
Tank Installation	Rough Terrain Forklifts	1	6.00	100	0.40
Tank Installation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Tank Installation	Welders	3	8.00	46	0.45
Site Restoration	Rough Terrain Forklifts	1	8.00	100	0.40
Site Restoration	Skid Steer Loaders	1	8.00	65	0.37
Site Restoration	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	20.00	0.00	30.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	23.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	23.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Tank Installation	11	19.00	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Restoration	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.5000e-004	0.0000	3.5000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7200e-003	0.0325	0.0469	7.0000e-005		1.6000e-003	1.6000e-003		1.5500e-003	1.5500e-003	0.0000	6.4438	6.4438	1.2800e-003	0.0000	6.4758
Total	**3.7200e-003**	**0.0325**	**0.0469**	**7.0000e-005**	**3.5000e-004**	**1.6000e-003**	**1.9500e-003**	**5.0000e-005**	**1.5500e-003**	**1.6000e-003**	**0.0000**	**6.4438**	**6.4438**	**1.2800e-003**	**0.0000**	**6.4758**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	2.4700e-003	5.6000e-004	1.0000e-005	2.6000e-004	2.0000e-005	2.8000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	0.9035	0.9035	5.0000e-005	1.4000e-004	0.9474
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.4000e-004	1.7700e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4464	0.4464	1.0000e-005	1.0000e-005	0.4503
Total	**2.3000e-004**	**2.6100e-003**	**2.3300e-003**	**1.0000e-005**	**8.1000e-004**	**2.0000e-005**	**8.3000e-004**	**2.2000e-004**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**1.3499**	**1.3499**	**6.0000e-005**	**1.5000e-004**	**1.3977**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.6000e-004	0.0000	1.6000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7200e-003	0.0325	0.0469	7.0000e-005		1.6000e-003	1.6000e-003		1.5500e-003	1.5500e-003	0.0000	6.4438	6.4438	1.2800e-003	0.0000	6.4758
Total	**3.7200e-003**	**0.0325**	**0.0469**	**7.0000e-005**	**1.6000e-004**	**1.6000e-003**	**1.7600e-003**	**2.0000e-005**	**1.5500e-003**	**1.5700e-003**	**0.0000**	**6.4438**	**6.4438**	**1.2800e-003**	**0.0000**	**6.4758**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	2.4700e-003	5.6000e-004	1.0000e-005	2.6000e-004	2.0000e-005	2.8000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	0.9035	0.9035	5.0000e-005	1.4000e-004	0.9474
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.4000e-004	1.7700e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4464	0.4464	1.0000e-005	1.0000e-005	0.4503
Total	**2.3000e-004**	**2.6100e-003**	**2.3300e-003**	**1.0000e-005**	**8.1000e-004**	**2.0000e-005**	**8.3000e-004**	**2.2000e-004**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**1.3499**	**1.3499**	**6.0000e-005**	**1.5000e-004**	**1.3977**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0886	0.0000	0.0886	0.0422	0.0000	0.0422	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0290	0.3029	0.1944	4.5000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	39.3639	39.3639	0.0106	0.0000	39.6291
Total	**0.0290**	**0.3029**	**0.1944**	**4.5000e-004**	**0.0886**	**0.0129**	**0.1015**	**0.0422**	**0.0120**	**0.0542**	**0.0000**	**39.3639**	**39.3639**	**0.0106**	**0.0000**	**39.6291**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.8900e-003	4.3000e-004	1.0000e-005	2.0000e-004	2.0000e-005	2.1000e-004	5.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.6927	0.6927	4.0000e-005	1.1000e-004	0.7264
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	6.8000e-004	8.9400e-003	2.0000e-005	2.7600e-003	2.0000e-005	2.7800e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.2499	2.2499	6.0000e-005	6.0000e-005	2.2695
Total	**9.0000e-004**	**2.5700e-003**	**9.3700e-003**	**3.0000e-005**	**2.9600e-003**	**4.0000e-005**	**2.9900e-003**	**7.8000e-004**	**3.0000e-005**	**8.2000e-004**	**0.0000**	**2.9426**	**2.9426**	**1.0000e-004**	**1.7000e-004**	**2.9958**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0399	0.0000	0.0399	0.0190	0.0000	0.0190	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0290	0.3029	0.1944	4.5000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	39.3638	39.3638	0.0106	0.0000	39.6291
Total	**0.0290**	**0.3029**	**0.1944**	**4.5000e-004**	**0.0399**	**0.0129**	**0.0527**	**0.0190**	**0.0120**	**0.0310**	**0.0000**	**39.3638**	**39.3638**	**0.0106**	**0.0000**	**39.6291**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.8900e-003	4.3000e-004	1.0000e-005	2.0000e-004	2.0000e-005	2.1000e-004	5.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.6927	0.6927	4.0000e-005	1.1000e-004	0.7264
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	6.8000e-004	8.9400e-003	2.0000e-005	2.7600e-003	2.0000e-005	2.7800e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.2499	2.2499	6.0000e-005	6.0000e-005	2.2695
Total	**9.0000e-004**	**2.5700e-003**	**9.3700e-003**	**3.0000e-005**	**2.9600e-003**	**4.0000e-005**	**2.9900e-003**	**7.8000e-004**	**3.0000e-005**	**8.2000e-004**	**0.0000**	**2.9426**	**2.9426**	**1.0000e-004**	**1.7000e-004**	**2.9958**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0328	0.0000	0.0328	0.0168	0.0000	0.0168	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9000e-003	0.1018	0.0828	1.9000e-004		4.3300e-003	4.3300e-003		4.0000e-003	4.0000e-003	0.0000	16.9145	16.9145	5.3900e-003	0.0000	17.0491
Total	**9.9000e-003**	**0.1018**	**0.0828**	**1.9000e-004**	**0.0328**	**4.3300e-003**	**0.0371**	**0.0168**	**4.0000e-003**	**0.0208**	**0.0000**	**16.9145**	**16.9145**	**5.3900e-003**	**0.0000**	**17.0491**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	3.1000e-004	4.0800e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	1.0268	1.0268	3.0000e-005	3.0000e-005	1.0357
Total	**3.9000e-004**	**3.1000e-004**	**4.0800e-003**	**1.0000e-005**	**1.2600e-003**	**1.0000e-005**	**1.2700e-003**	**3.4000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0268**	**1.0268**	**3.0000e-005**	**3.0000e-005**	**1.0357**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0147	0.0000	0.0147	7.5800e-003	0.0000	7.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9000e-003	0.1018	0.0828	1.9000e-004		4.3300e-003	4.3300e-003		4.0000e-003	4.0000e-003	0.0000	16.9145	16.9145	5.3900e-003	0.0000	17.0491
Total	**9.9000e-003**	**0.1018**	**0.0828**	**1.9000e-004**	**0.0147**	**4.3300e-003**	**0.0191**	**7.5800e-003**	**4.0000e-003**	**0.0116**	**0.0000**	**16.9145**	**16.9145**	**5.3900e-003**	**0.0000**	**17.0491**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	3.1000e-004	4.0800e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	1.0268	1.0268	3.0000e-005	3.0000e-005	1.0357
Total	**3.9000e-004**	**3.1000e-004**	**4.0800e-003**	**1.0000e-005**	**1.2600e-003**	**1.0000e-005**	**1.2700e-003**	**3.4000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0268**	**1.0268**	**3.0000e-005**	**3.0000e-005**	**1.0357**

3.5 Tank Installation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0643	0.4729	0.5136	8.7000e-004		0.0220	0.0220		0.0213	0.0213	0.0000	71.7816	71.7816	0.0132	0.0000	72.1118
Total	**0.0643**	**0.4729**	**0.5136**	**8.7000e-004**		**0.0220**	**0.0220**		**0.0213**	**0.0213**	**0.0000**	**71.7816**	**71.7816**	**0.0132**	**0.0000**	**72.1118**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Tank Installation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7000e-004	0.0127	4.2100e-003	5.0000e-005	1.6400e-003	1.3000e-004	1.7700e-003	4.7000e-004	1.2000e-004	5.9000e-004	0.0000	4.8521	4.8521	1.6000e-004	7.0000e-004	5.0660
Worker	2.0700e-003	1.6700e-003	0.0219	6.0000e-005	6.7700e-003	4.0000e-005	6.8200e-003	1.8000e-003	4.0000e-005	1.8400e-003	0.0000	5.5132	5.5132	1.5000e-004	1.5000e-004	5.5611
Total	**2.5400e-003**	**0.0144**	**0.0261**	**1.1000e-004**	**8.4100e-003**	**1.7000e-004**	**8.5900e-003**	**2.2700e-003**	**1.6000e-004**	**2.4300e-003**	**0.0000**	**10.3654**	**10.3654**	**3.1000e-004**	**8.5000e-004**	**10.6270**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0643	0.4729	0.5136	8.7000e-004		0.0220	0.0220		0.0213	0.0213	0.0000	71.7815	71.7815	0.0132	0.0000	72.1117
Total	**0.0643**	**0.4729**	**0.5136**	**8.7000e-004**		**0.0220**	**0.0220**		**0.0213**	**0.0213**	**0.0000**	**71.7815**	**71.7815**	**0.0132**	**0.0000**	**72.1117**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Tank Installation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7000e-004	0.0127	4.2100e-003	5.0000e-005	1.6400e-003	1.3000e-004	1.7700e-003	4.7000e-004	1.2000e-004	5.9000e-004	0.0000	4.8521	4.8521	1.6000e-004	7.0000e-004	5.0660
Worker	2.0700e-003	1.6700e-003	0.0219	6.0000e-005	6.7700e-003	4.0000e-005	6.8200e-003	1.8000e-003	4.0000e-005	1.8400e-003	0.0000	5.5132	5.5132	1.5000e-004	1.5000e-004	5.5611
Total	**2.5400e-003**	**0.0144**	**0.0261**	**1.1000e-004**	**8.4100e-003**	**1.7000e-004**	**8.5900e-003**	**2.2700e-003**	**1.6000e-004**	**2.4300e-003**	**0.0000**	**10.3654**	**10.3654**	**3.1000e-004**	**8.5000e-004**	**10.6270**

3.5 Tank Installation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0323	0.2395	0.2746	4.7000e-004		0.0104	0.0104		0.0101	0.0101	0.0000	38.6561	38.6561	6.9500e-003	0.0000	38.8298
Total	**0.0323**	**0.2395**	**0.2746**	**4.7000e-004**		**0.0104**	**0.0104**		**0.0101**	**0.0101**	**0.0000**	**38.6561**	**38.6561**	**6.9500e-003**	**0.0000**	**38.8298**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Tank Installation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5000e-004	5.3300e-003	2.0300e-003	3.0000e-005	8.8000e-004	3.0000e-005	9.1000e-004	2.5000e-004	3.0000e-005	2.8000e-004	0.0000	2.4916	2.4916	8.0000e-005	3.6000e-004	2.6013
Worker	1.0400e-003	8.0000e-004	0.0109	3.0000e-005	3.6500e-003	2.0000e-005	3.6700e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	2.8906	2.8906	7.0000e-005	7.0000e-005	2.9143
Total	**1.1900e-003**	**6.1300e-003**	**0.0129**	**6.0000e-005**	**4.5300e-003**	**5.0000e-005**	**4.5800e-003**	**1.2200e-003**	**5.0000e-005**	**1.2700e-003**	**0.0000**	**5.3822**	**5.3822**	**1.5000e-004**	**4.3000e-004**	**5.5156**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0323	0.2395	0.2746	4.7000e-004		0.0104	0.0104		0.0101	0.0101	0.0000	38.6560	38.6560	6.9500e-003	0.0000	38.8297
Total	**0.0323**	**0.2395**	**0.2746**	**4.7000e-004**		**0.0104**	**0.0104**		**0.0101**	**0.0101**	**0.0000**	**38.6560**	**38.6560**	**6.9500e-003**	**0.0000**	**38.8297**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Tank Installation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5000e-004	5.3300e-003	2.0300e-003	3.0000e-005	8.8000e-004	3.0000e-005	9.1000e-004	2.5000e-004	3.0000e-005	2.8000e-004	0.0000	2.4916	2.4916	8.0000e-005	3.6000e-004	2.6013
Worker	1.0400e-003	8.0000e-004	0.0109	3.0000e-005	3.6500e-003	2.0000e-005	3.6700e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	2.8906	2.8906	7.0000e-005	7.0000e-005	2.9143
Total	**1.1900e-003**	**6.1300e-003**	**0.0129**	**6.0000e-005**	**4.5300e-003**	**5.0000e-005**	**4.5800e-003**	**1.2200e-003**	**5.0000e-005**	**1.2700e-003**	**0.0000**	**5.3822**	**5.3822**	**1.5000e-004**	**4.3000e-004**	**5.5156**

3.6 Site Restoration - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0900e-003	0.0247	0.0384	6.0000e-005		9.8000e-004	9.8000e-004		9.0000e-004	9.0000e-004	0.0000	4.9289	4.9289	1.5900e-003	0.0000	4.9687
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0900e-003**	**0.0247**	**0.0384**	**6.0000e-005**		**9.8000e-004**	**9.8000e-004**		**9.0000e-004**	**9.0000e-004**	**0.0000**	**4.9289**	**4.9289**	**1.5900e-003**	**0.0000**	**4.9687**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Site Restoration - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.2000e-004	1.7000e-003	0.0000	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4521	0.4521	1.0000e-005	1.0000e-005	0.4558
Total	**1.6000e-004**	**1.2000e-004**	**1.7000e-003**	**0.0000**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4521**	**0.4521**	**1.0000e-005**	**1.0000e-005**	**0.4558**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0900e-003	0.0247	0.0384	6.0000e-005		9.8000e-004	9.8000e-004		9.0000e-004	9.0000e-004	0.0000	4.9289	4.9289	1.5900e-003	0.0000	4.9687
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0900e-003**	**0.0247**	**0.0384**	**6.0000e-005**		**9.8000e-004**	**9.8000e-004**		**9.0000e-004**	**9.0000e-004**	**0.0000**	**4.9289**	**4.9289**	**1.5900e-003**	**0.0000**	**4.9687**

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Site Restoration - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.2000e-004	1.7000e-003	0.0000	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4521	0.4521	1.0000e-005	1.0000e-005	0.4558
Total	**1.6000e-004**	**1.2000e-004**	**1.7000e-003**	**0.0000**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4521**	**0.4521**	**1.0000e-005**	**1.0000e-005**	**0.4558**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.9900e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	2.9900e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.9800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Total	**2.9800e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.9800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Total	**2.9800e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

SCWD Reservoir 2B Replacement Project - South Coast AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix C

Biological Resources Assessment

Rincon Consultants, Inc.

250 East 1st Street, Suite 1400
Los Angeles, California 90012

213 788 4842

info@rinconconsultants.com
www.rinconconsultants.com

April 26, 2022
Project No: 21-11820

Taryn Kjolsing, PE, Engineering Manager
South Coast Water District
31592 West Street
Laguna Beach, California 92651
Via email: tkjolsing@scwd.org

Subject: Biological Resources Assessment for South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, California

Dear Ms. Kjolsing:

This report documents the findings of a Biological Resources Assessment (BRA) conducted by Rincon Consultants, Inc. (Rincon) for the proposed South Coast Water District (SCWD) Reservoir 2B Replacement Project (project). The project is located in the city of Laguna Beach, California. Rincon understands the BRA will support an Initial Study-Mitigated Negative Declaration (IS-MND) for the project being prepared in compliance with the California Environmental Quality Act (CEQA). As such, the BRA is prepared in accordance with the CEQA Guidelines Appendix G Initial Study Checklist for Biological Resources. This report assesses the potential for regulated biological resources to be present on the project site via desktop analysis and field survey, evaluates anticipated project impacts to these resources, if present, based on current project plans, and recommends (as appropriate) avoidance and minimization measures to reduce potential impacts to a less-than-significant level.

Project Location and Description

The project site is located within SCWD's service area and is comprised of the existing SCWD Reservoir 2B facility and its associated access road located immediately east of 31321 Ceanothus Drive in Laguna Beach, Orange County, California (Attachment 1, Figure 1). The project site consists of Assessor's Parcel Numbers 658-191-03, 658-191-04, and 056-051-29 and is zoned "Open Space/Conservation" and "Open Space/Conservation-Residential/Hillside Protection Zone" by the City of Laguna Beach (City). The site is within the United States Geological Survey Laguna Niguel, California 7.5-minute topographic quadrangle. The project site contains Reservoir 2B, which is an approximately 30-foot-diameter, 0.1-million-gallon (MG) aboveground water storage reservoir, and an access road (Attachment 1, Figure 2). The existing reservoir is surrounded by a chain link fence. The access road is a steep, winding, unpaved road off Ceanothus Drive, which is also used by members of the public as a connector route between Ceanothus Drive and Toovet Trail. The project site is situated in a hilly wildland-urban interface above a residential neighborhood and is surrounded by open space and residential land uses. Toovet Trail, which is part of Aliso and Wood Canyons Wilderness Park, starts immediately south of the fenced reservoir property at the terminus of the unpaved access road. Aliso Peak is located approximately 270 feet northeast of the project site.

The project would include demolition of the existing Reservoir 2B and construction of two new aboveground 0.1-MG reservoirs. The purpose of the proposed project is to provide additional capacity

for SCWD's 490-pressure zone and contribute to providing an additional 0.1 MG of operational, fire, and emergency water storage for this zone. The existing Reservoir 2B, which would be demolished, is an aboveground, 0.1-MG steel welded tank approximately 30 feet in diameter and approximately 19 feet in height and was installed in 1946. The existing reservoir would be replaced by two 0.1-MG aboveground steel reservoirs, each approximately 33 feet in diameter and approximately 21 to 22 feet in height. The new reservoirs would be light blue in color, consistent with SCWD's standard tank design. Figure 3 in Attachment 1 shows the preliminary site layout of the proposed project.

As part of the project, a new electrical service feeder would be installed underneath the existing access road, which would connect electrical equipment at the reservoir location to a new San Diego Gas & Electric aboveground 240/480-volt meter pedestal and aboveground transformer located at the intersection of the access road and Ceanothus Drive. The existing 120/240-volt service feeder and corresponding meter pedestal to the southeast of Reservoir 2B would be abandoned in place following the installation of the new power supply elements.

The project would include drainage improvements to address stormwater runoff consisting of three culverts ranging in diameter from 15 to 21 inches, six energy dissipators and/or rip-rap hard surfaces, and a concrete v-ditch. All drainage improvements would be installed within 10 feet of the existing access road with the exception of the culvert and energy dissipator immediately south of the reservoir location, which would be installed within 30 feet of the existing disturbed footprint of the reservoir location. The project also includes asphalt paving of the existing unpaved access road. These drainage improvements would maintain existing drainage patterns while improving erosion control.

Methodology

Regulated resources studied and analyzed herein include special-status plant and wildlife species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and locally protected resources, such as protected trees. The designated Study Area for the analysis provided herein consists of the project site, including the access road, and a 100-foot surrounding buffer.

Regulatory Overview

Environmental Statutes

Potential impacts to biological resources were assessed based on the following statutes:

- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (ESA)
- California Endangered Species Act (CESA)
- Federal Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- City of Laguna Beach General Plan

- City of Laguna Beach Local Coastal Program (LCP)
- Laguna Beach Municipal Code (LBMC)

Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the CEQA Guidelines Appendix G Initial Study Checklist, were used to evaluate potential environmental effects. Based on these criteria, the proposed project would have a significant effect on biological resources if it would:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or United States 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 United States Fish and Wildlife Service.

c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal areas, 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.

Literature Review

A literature review was conducted to establish the environmental and regulatory setting of the proposed project. Specific literature reviewed for the subject analysis is provided in the *References* section at the end of this report. The literature reviewed included the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey (USDA 2022) and literature detailing the habitat requirements of subject species. Aerial photographs, topographic maps, and soil survey maps were also examined.

Queries of the United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System: Information for Planning and Consultation system (USFWS 2022a), USFWS Critical Habitat Portal (USFWS 2022b), USFWS National Wetland Inventory (NWI) (USFWS 2022c), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2022a), CDFW Biogeographic Information and Observation System (CDFW 2022b), and California Native Plant Society (CNPS) *Online Inventory of Rare, Threatened and Endangered Plants of California* (CNPS 2022), were conducted. The queries were performed to obtain comprehensive information regarding State and federally listed species, sensitive communities and federally designated Critical Habitat known to or considered to have potential to occur within the vicinity of the project site.

Field Reconnaissance Survey

The field reconnaissance survey was limited to providing an overview of on-site biological constraints and the potential presence of regulated biological resources, including special-status plant and wildlife species, sensitive plant communities, jurisdictional waters and wetlands, protected trees, wildlife movement, and habitat for nesting birds. The field survey assessed the designated Study Area, which consists of the project site, including the access road, and a 100-foot surrounding buffer.

Rincon Senior Biologist, Jared Reed, conducted the field reconnaissance survey on December 2, 2021, from 0735 to 1300. The survey was performed by walking the project site to characterize the existing biological resources present (e.g., vegetation communities, potential presence of regulated species and/or habitats, and presence of potentially jurisdictional waters). Inspection of the full Study Area and its vicinity was also conducted using binoculars (10 x 40). Weather conditions during the survey included an average temperature of 60 degrees Fahrenheit with winds between zero and three miles per hour and cloudy skies (95 percent at survey start) to partly cloudy skies (40 percent at survey end). Representative photographs of the site were taken and are included in Attachment 2.

Vegetation mapping and classification followed *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018) and were based on the classification system provided in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). Alternatively, vegetation communities or land cover types not described in *A Manual of California Vegetation* were classified using conventional naming practices (i.e., developed) or were defined by the dominant species.

Additionally, nine protocol-level surveys were conducted by approved permitted biologists for coastal California gnatcatcher presence within the Study Area (Dudek 2022; Attachment 3). All surveys were conducted in accordance with the USFWS guidelines between December 2021 and March 2022 (USFWS 1997), spaced two weeks apart during the non-breeding season (July 1 through March 14). Coastal California gnatcatcher is federally listed as threatened and is a CDFW Species of Special Concern (SSC).

Existing Conditions

Physical Characteristics

The approximately 1.1-acre project site is in an open space area adjacent to a developed residential neighborhood. The approximate seven-acre Study Area contains native vegetation and disturbed/developed areas. Elevation within the Study Area ranges from approximately 285 to 550 feet above mean sea level. Soils underlying the Study Area consist of Soper gravelly loam, 30 to 50 percent slopes (USDA 2022).

A review of recent and historical aerial imagery indicates the Study Area contained open space subject to historical disturbance from urban development. The existing roadways within the Study Area, Ceanothus Drive and Alta Loma Drive, were developed prior to 1938, and the existing Reservoir 2B on the project site was installed in 1946. Significant residential development occurred in the Study Area between 1952 and 1963 along Ceanothus Drive southeast of the project site, and a network of hiking trails was established sometime between 1946 and 1952 just east of the project site (HistoricAerials.com 2022).

Vegetation Communities and Land Cover Types

Vegetation communities and land cover types documented within the Study Area during the reconnaissance survey include big pod ceanothus chaparral, California sagebrush, California buckwheat scrub, fountain grass swards, upland mustards, developed, and ornamental areas (Table 1; Attachment 1, Figure 4). Brief descriptions of the vegetation communities present in the Study Area are provided below. A list of plant species observed during the December 2, 2021 survey is included in Attachment 4.

Table 1 Summary of Vegetation Communities and Land Cover Types within the Study Area

Type	Approximate Acreage	Approximate Percent Area
Big pod ceanothus chaparral	3.94	55%
California buckwheat scrub alliance	0.54	8%
Buckwheat-sumac	0.25	3.5%
Fountain grass swards	0.13	2%
Developed	1.66	23%
Upland mustards	0.35	5%
Ornamental	0.24	3.5%
Total	**7.11**	**100%**

Big Pod Ceanothus Chaparral (*Ceanothus megacarpus* Shrubland Alliance)

The big pod ceanothus chaparral alliance is typically found along rocky, dry slopes, canyons, and ridges between 1 to 5,715 feet (0 to 1,741 meters) in elevation and can tolerate various soils. This vegetation community is ranked G4S4 and is not considered sensitive (CDFW 2021).

Big pod ceanothus chaparral is the dominant community and occurs throughout the Study Area. In the northeastern portion of the Study Area, this community occurs along the slopes east of the reservoir location and along the access road to the north and consists of big pod ceanothus (*Ceanothus megacarpus*), lemonade berry (*Rhus integrifolia*), and toyon (*Heteromeles arbutifolia*). This community also occurs southwest of the reservoir location within the central portion of the Study Area. The Study Area contains 3.94 acres (55 percent) of this alliance.

California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance)

The California buckwheat scrub alliance is typically found along upland sloped, intermittently flooded arroyos, channels and washes, and rarely within flooded low-gradient deposits, between 0 to 3,940 feet (0 to 1,200 meters) in elevation. Soils are typically coarse, well drained, and moderately acidic to slightly saline. This vegetation community is not considered sensitive (CDFW 2021).

This vegetation community is found within the southeastern portion of the Study Area, along a gently sloping hill east of the access road. The shrub layer is composed of California buckwheat, California sagebrush (*Artemisia californica*), bush monkey flower (*Diplacus aurantiacus*), California brittlebush (*Encelia californica*), chaparral mallow (*Malacothamnus fasciculatus*), and black sage (*Salvia mellifera*). The Study Area contains 0.54 acre (8 percent) of this alliance.

Buckwheat-Sumac (*Eriogonum fasciculatum – Salvia mellifera – Malosma laurina* Shrubland Association)

The buckwheat-sumac shrubland association is typically found along steep southwest and southeast slopes facing between 0 and 2,235 feet (0 to 681 meters). Soils are coarse, well drained, and moderately acidic to slightly saline. This vegetation community is not considered sensitive (CDFW 2021).

A patch of *Eriogonum fasciculatum – Salvia mellifera – Malosma laurina* shrubland association occurs in the central portion of the Study Area. This vegetation community was dominated by California buckwheat and laurel sumac (*Malosma laurina*). The Study Area contains 0.25 acre (3.5 percent) of this association.

Fountain Grass Swards (*Pennisetum setaceum- Pennisetum ciliare* Herbaceous Semi-Natural Alliance)

Fountain grass is a non-native perennial grass typically found in warm, arid landscapes within canyons and along roadsides, arroyos, and washes. Fountain grass has a California Invasive Plant Council (Cal-IPC) raking of moderate, indicating a substantial and apparent ecological impact on plant and animal communities, physical processes, and vegetation structure; however, the impacts are not severe (Cal-IPC 2022).

Fountain grass swards occur within the central portion of the Study Area along the access road and are interspersed within the California buckwheat scrub. The Study Area contains 0.13 acre (two percent) of this vegetation community.

Upland Mustards (*Brassica nigra* Semi-Natural Herbaceous Alliance)

The *Brassica nigra* semi-natural herbaceous alliance is typically found in fallow fields, grasslands, roadsides, levee slopes, disturbed coastal scrub, riparian areas, cleared roadsides, and waste places between 0 to 4,920 feet (0 to 1,500 meters) in elevation. Black mustard, tumble mustard, wild radish (*Raphanus sativus*), or other mustards occur with non-native plants at over 80 percent cover in the herbaceous layer. This vegetation community is not provided a rarity ranking due to the dominance of non-native species.

This vegetation community is found within the western portion of the Study Area adjacent to developed residential areas. The Study Area contains 0.35 acre (five percent) of this alliance.

Developed and Disturbed

The developed/disturbed areas within the Study Area consist of buildings and other infrastructure. Development is present within the west and southwest portions of the Study Area adjacent to the access road as well as within the footprint of the unpaved access road leading to the reservoir site and the existing fenced reservoir facility. These areas contain existing residential buildings, the compacted dirt access road, and Reservoir 2B along with its appurtenant features. The Study Area contains 1.66 acres (23 percent) of developed land.

Ornamental Landscaping

The other land cover type within the Study Area consists of ornamental landscaping. This land cover type is not officially identified in *A Manual of California Vegetation* (Sawyer et al. 2009) as a defined vegetation community. Ornamental landscaping is found within the northwest corner of the Study Area within a residential neighborhood and includes eucalyptus trees (*Eucalyptus* sp.) and other non-native species. The Study Area contains 0.24 acre (3.5 percent) of ornamental land cover.

General Wildlife

The undeveloped portion of the Study Area is contiguous with a larger open space that may be utilized by a variety of native and non-native wildlife. The developed portion of the Study Area, which is within a residential neighborhood with paved roads and developed buildings, supports common wildlife adapted to urban and suburban areas (e.g., a variety of common avian species). Wildlife species observed directly or detected from calls, tracks, scat, nests, or other signs were documented during the field survey (Attachment 4). The detection of wildlife species was potentially limited by seasonal and temporal factors.

Regulated Biological Resources

Based on a review of aerial photographs and the December 2, 2021 field reconnaissance survey, Rincon biologists evaluated the potential presence of regulated biological resources within the Study Area, as detailed in the following sections.

Special-Status Species

Special-status species are those plants and animals listed, proposed for listing, or candidates for listing as Threatened or Endangered by the USFWS under the ESA; those listed or candidates for listing as Rare, Threatened, or Endangered by the CDFW under the CESA; animals designated as “Fully Protected” by the CFGC; animals listed as SSC by the CDFW; and CDFW Special Plants, specifically those with California Rare Plant Ranks (CRPR) of 1B, 2, 3, and 4 in the CNPS Inventory of Rare and Endangered Vascular Plants of California (CNPS 2022).

Local, State, and federal agencies regulate special-status species and may require an assessment of their presence or potential presence be completed prior to approval of proposed development on a property. A list of special-status plant and wildlife species with potential to occur on the project site was prepared based on review of a five-mile radius search area of the CNDDB (CDFW 2022b) and nine-quadrangle (quad) search of the CNPS online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2022) (Attachment 5). While the standard nine-quad methodology was applied for the CNPS search, the search area was automatically reduced by the database to six quads to account for adjacent marine environments not relevant to the Study Area. Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, species occurrence records from other sites in the vicinity of the Study Area, and previous reports for the project site. The potential for each special-status species to occur in the Study Area was evaluated according to the following criteria:

- **Not Expected.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last five years).

Queries of the CNDBB (within five miles of the Study Area) and the CNPS (six-quad search area) returned records for 42 special-status plant species and 25 special-status wildlife species (Attachment 5).

Special-Status Plant Species

Rincon biologists evaluated 42 special-status plant species tracked by the CNDDB and CNPS within the search area for their potential to occur (Attachment 5). The assessment is based on the presence of suitable habitat as identified during the reconnaissance survey and existing knowledge of species occurrences and distributions in the region. Of the 42 species evaluated, four have a moderate potential to occur within the Study Area: intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*), decumbent goldenbush (*Isocoma menziesii* var. *decumbens*), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*), and big-leaved crownbeard (*Verbesina dissita*). In addition, one special-status plant species, cliff spurge (*Euphorbia misera),* was detected within the Study Area during the reconnaissance survey. A small number of individuals of this species was observed alongside the existing access road; however, most of the population within the Study Area was observed further away from the road, both on the slope above the road and on the slope below the road. No cliff spurge individuals were observed within the road itself. This species has a CRPR rank of 2B.2, meaning cliff spurge is categorized by CNPS as Rare, Threatened, or Endangered in California but common elsewhere and is moderately threatened in California (20 percent to 80 percent of occurrences threatened / moderate degree of immediacy of threat). Cliff spurge was observed within vegetated areas next to the unpaved access road (Attachment 1, Figure 4).

The remaining 37 species have a low potential to occur or are not expected to occur. The determinations for these species are based on factors ranging from the existing developed nature of the project site, lack of suitable soils, inappropriate hydrologic conditions, absence of appropriate vegetation communities, and lack of observation during the reconnaissance survey conducted during the blooming period for many species. In addition, the CNDDB occurrences for a number of species are historical, dating to the mid-1900s or earlier.

A focused rare plant survey was conducted in April 2022 to determine the presence and extent of rare, listed, or special-status plants within the Study Area. The focused survey was conducted in accordance with the CNPS (2002) *Botanical Survey Guidelines*, CDFW (2009) *Protocols for Surveying and Evaluating*

Impacts to Special Status Native Populations and Natural Communities, and USFWS *General Rare Plant Survey Guidelines* (Cypher 2002). Cliff spurge was confirmed present along the edges of the access road. No other special status plants were observed during the focused rare plant survey (Dudek 2022b, Attachment 6). Therefore, this analysis focuses on potential project impacts to cliff spurge.

Special-Status Wildlife Species

Rincon evaluated 25 special-status wildlife species tracked by the CNDDB within a five-mile radius of the Study Area for their potential to occur (Attachment 5). The assessment is based on the presence of suitable habitat identified during the field survey and existing knowledge of species occurrences and distributions in the region. No special-status wildlife species were detected within the Study Area during the field reconnaissance survey. Of the 25 species evaluated, three were determined to have a moderate potential to occur within the Study Area based on habitat suitability: southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), and coastal California gnatcatcher (*Polioptila californica californica*). Nine protocol-level surveys for coastal California gnatcatcher were conducted between December 2021 and March 2022, and no coastal California gnatcatchers were visually observed or auditorily detected. Therefore, the Study Area is considered absent of coastal California gnatcatchers.

Nesting Birds

While common birds are not designated as special-status species, destruction of their eggs, nests, and nestlings is prohibited by federal and State law. Section 3503.5 of the CFGC specifically protects birds of prey and their nests and eggs against take, possession, or destruction. Section 3503 of the CFGC also incorporates restrictions imposed by the federal MBTA with respect to migratory birds (which includes most native bird species).

Eucalyptus (*Eucalyptus* spp.) trees and other vegetation in the Study Area could provide suitable nesting habitat for several common avian species.

Sensitive Plant Communities

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in the CNDDB. CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2020) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive, though there are some exceptions.

The CNDDB has records for three sensitive terrestrial natural communities reported from historical information (primarily 1988 or earlier) within a five-mile radius of the project site: Southern Cottonwood Willow Riparian Forest, Southern Coast Live Oak Riparian Forest, and Southern Sycamore Alder Riparian Woodland. No sensitive natural communities were observed within the Study Area.

Jurisdictional Waters and Wetlands

In accordance with Section 1602 of the CFGC, CDFW has jurisdiction over lakes and streambeds (interpreted to include adjacent riparian resources). CDFW regulates wetland areas only to the extent those wetlands are part of a river, stream, or lake. Under Section 404 of the CWA, the United States

Army Corps of Engineers (USACE) has authority to regulate activities that discharge dredge or fill material into wetlands or other "waters of the United States" through issuance of a Section 404 Permit. Finally, the Regional Water Quality Control Board (RWQCB) has jurisdiction over "waters of the State" pursuant to the Porter-Cologne Water Quality Control Act and has the responsibility for review of the project water quality certification per Section 401 of the federal CWA.

The California State Water Resources Control Board (2019) *Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State* states that waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that a lack of vegetation does not preclude an area from meeting the definition of a wetland. In practice, the San Diego RWQCB extends its jurisdictional area to the top of banks, which is coterminous with CDFW jurisdiction.

The Study Area is located within the approximately 152-square-mile Aliso Creek-Frontal Gulf of Santa Catalina Watershed (Hydrologic Unit Code 1807030103). Headwaters of Aliso Creek originate in the Cleveland National Forest, and the creek ultimately discharges into the Pacific Ocean at Aliso Beach. The NWI and National Hydrography Dataset do not identify any wetlands or waters within the Study Area (USFWS 2022b and United States Geological Survey 2022) (Attachment 1, Figure 6).

Two drainage features were identified within the Study Area and were assessed for the potential presence of USACE, RWQCB, and CDFW jurisdiction during the Aquatic Resources Delineation field survey (Attachment 7). One unnamed ephemeral drainage extends in a southwest direction from a point outside the project site but within the Study Area near the existing Reservoir 2B location. The downstream portion of the drainage conveys flows onto the access road within the project site. The unnamed drainage was determined to be ephemeral because it only conveys flows immediately after a rain event, as evidenced by a lack of hydrophytic vegetation or other indicators of prolonged surface water presence. This feature exhibited a faint Ordinary High Water Mark (OHWM), as evidenced by limited drift deposits and vegetation matting, and a bed and bank. The faint OHWM measured approximately two feet across. The presence of a defined bed and bank indicate the feature is potentially subject to the jurisdiction of the San Diego RWQCB and CDFW. The top of bank measured approximately six feet wide, and the unnamed ephemeral drainage is approximately 243 feet long within the Study Area. The drainage feature is not shown on either the NWI or National Hydrography Dataset map. The unnamed ephemeral drainage is not a tributary to a navigable waterway and is therefore not subject to the jurisdiction of the USACE.

The second feature was located west of the unnamed drainage. This feature was determined to be non-jurisdictional for USACE, CDFW, and RWQCB due to a lack of bed and bank or an OHWM. There was also no evidence of concentrated flow, so this feature was determined to be a non-jurisdictional hillside swale. Storm flows appeared to originate from erosion and surface runoff from the adjacent road immediately northeast of the swale. No hydrophytic vegetation, hydric soils, or wetland hydrology were observed within this swale.

Soil pits confirmed waters within the Study Area are comprised of potential non-wetland waters of the State. However, no hydric soils, hydrophytic vegetation, or evidence of hydrology was present; therefore, no wetland waters of the State are present in the Study Area.

Neither drainage feature would be considered a significant watercourse as defined in the City's LCP because they do not serve a distinct functional scenic or ecological purpose. The features do not provide significant wildlife habitat, including feeding, watering, and breeding areas. Wildlife activity was low in

the area during the Aquatic Resources Delineation field survey, and no evidence of nesting was observed. These features also do not serve scenic purposes, including density relief or general aesthetic appeal, due to their adjacency to dense residential development.

Wildlife Movement

Wildlife corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as allowing movement between foraging and denning areas, or they may be regional in nature, allowing movement across the landscape. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats in the linkage do not necessarily need to be the same as the habitats being linked. Rather, the linkage merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically, habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (e.g., rock outcroppings, vernal pools, or oak trees) may need to be in the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

The Study Area is not situated within any documented wildlife corridors or habitat linkages (Spencer et. al 2010). The Study Area is bordered on the west side by residential development. The open space to the north and northeast of the Study Area is within the Aliso and Wood Canyons Wilderness Park, which connects to the Laguna Coast Wilderness Park and Crystal Cove State Park open space areas approximately five miles northwest of the Study Area. These open space areas contain habitat likely supporting local and regional wildlife movement. While the naturally vegetated portions of the Study Area connect to this open space, it is unlikely they contribute significantly to wildlife movement given their adjacency to existing residential development and transportation corridors. In addition, the developed Reservoir 2B site and unpaved access road within the Study Area offer little to no value to wildlife movement for similar reasons.

Resources Protected by Local Policies and Ordinances

Open Space Areas

The project site has General Plan land use designations of Open Space and Open Space-Residential/Hillside Protection and is zoned Open Space/Conservation and Open Space/Conservation-Residential/Hillside Protection Zone, as defined by the LBMC. Title 25, Section 41 of the LBMC designates Open Space as a zone intended to protect and preserve open space lands which are of notable ecological, scenic, cultural, and scientific value so that such land remains a permanent community resource. Title 25, Section 15 designates Residential/Hillside Protection as a zone in which any new development shall be sensitive to the hillside terrain and environmental constraints, and shall provide for the conservation of existing natural open space lands, unique landforms, scenic hillsides, and sensitive biological habitats.

City of Laguna Beach General Plan and Local Coastal Program

Natural resources within Laguna Beach city limits are regulated by the City's LCP and General Plan Open Space and Conservation Element (City of Laguna Beach 1993), which contains policies regarding conservation of biological resources and ecosystems, as well as protection of sensitive habitat (including wildlife corridors) and endangered species. The following General Plan policies related to biological resources are relevant for the proposed project (based on its location and/or proposed activities):

Policy 8-A: Preserve the canyon wilderness throughout the City for its multiple benefits to the community, protecting critical areas adjacent to canyon wilderness, particularly stream beds whose loss would destroy valuable resources.

***Policy 8-B*:** Prohibit vehicular use in open space areas, unless it is required for public health and safety, and monitor these areas to ensure enforcement of this policy.

***Policy 8-C*:** Identify and maintain wildlife habitat areas in their natural state as necessary for the preservation of species.

Policy 8-D: Protect rangeland for deer population in the City; pursue such protection in areas adjacent to, but outside the City.

Policy 8-I: Environmentally Sensitive Areas (ESAs) as defined by Section 30107.5 of the California Coastal Act shall be identified and mapped on the Coastal ESA Map. The following areas shall be designated as Environmentally Sensitive Areas: Those areas shown on the Biological Resource Values Map in the Open Space/Conservation Element as "Very High" habitat value, and streams on the Major Watersheds and Drainage Courses Map which are also streams as identified on the United States Geological Survey 7.5 Minute Quadrangle Series and any other areas which contain environmentally sensitive habitat resources as identified through an on-site biological assessment process, including areas of "High" and "Moderate" habitat value on the Biological Resources Values Map and areas which met the definition of ESA's in Section 30107.5 of the Coastal Act, including streams, riparian habitats, and areas of open coastal waters, including tidepools, areas of special biological significance, habitats of rare or endangered species, near-shore reefs and rocky intertidal areas and kelp beds.

Policy 8-J: Detailed biological assessments shall be required for all new development proposals located within areas designated as Environmentally Sensitive Areas on the Coastal ESA Map. To protect these resources, the following shall be required:

- No new development proposals shall be located in areas designated as "Environmentally Sensitive Areas" on the Coastal ESA Map except for uses dependent upon such resources.
- When new development proposals are situated in areas adjacent to areas designated as "Environmentally Sensitive Areas" on the Coastal ESA Map and where these are confirmed by subsequent on-site assessment, require that development be designed and sited to prevent impacts which would significantly degrade such areas.
- Where development is proposed on an existing subdivided lot which is otherwise developable (i.e., able to be served by utilities and access, and on slopes able to accommodate development consistent with City provisions on slope/density, grading, hazards, subdivisions and road access), and is consistent with all other policies of this Land Use Plan except for its location entirely within an identified ESA as confirmed by a site-specific assessment, the following shall apply:

- Resource Management uses including estuaries, nature centers, and other similar scientific or recreational uses are permitted subject to a Conditional Use Permit to assure that uses are sited and designed to prevent degradation of the resource value; or alternatively,
- Transfer of a density bonus to another property in the vicinity able to accommodate increased density consistent with the policies of the Land Use Plan concurrent with the recordation of an open space easement or other similar instrument over the habitat area of the parcel;
- Existing dwellings shall be designated as nonconforming uses but shall be allowed to be rebuilt or repaired if damaged or destroyed by natural disaster provided however, that the floor area, height and bulk of the structure not exceed that of the destroyed structure by more than 10 percent.
- No new parcels shall be created which are entirely within a coastal ESA or which do not contain a site where development can occur consistent with the ESA policies of this Plan.

Policy 8-K: As a condition of new development in South Laguna, require the identification of environmentally sensitive areas, including chaparral and coastal sage scrub. Intrusion into these areas for wildlands fuel modification programs should not be permitted.

Policy 8-L: Preserve and protect fish and/or wildlife species for future generations.

Policy 8-M: Preserve a continuous open space corridor within the hillsides in order to maintain animal migration opportunities.

Policy 8-N: Encourage the preservation of existing drought-resistant, native vegetation and encourage the use of such vegetation in landscape plans.

Policy 8-O: Map environmentally sensitive areas in South Laguna and include these areas on City maps.

Policy 8-P: Those areas identified as Open Space or Hillside Management/Conservation on the South Laguna Land Use Plan shall be designated Environmentally Sensitive Areas as described in Policy 7 and Policy 10 of the Laguna Beach Land Use Plan.

Protected Trees

Heritage trees are protected under the City's tree ordinance (LBMC Chapter 12.08). Pursuant to the ordinance, a tree permit must be obtained prior to damaging or removing any heritage trees included on the heritage tree list established by the City Council by resolution. To be eligible for inclusion on the heritage tree list, the tree or trees must meet one of the following criteria (LBMC Section 12.08.040):

- A tree or stand of trees which is of historical significance or older than fifty years
- A tree or stand of trees which has distinctive characteristics of form, size, or shape
- A tree or stand of trees associated with a person or an event of communitywide significance
- A large tree or stand of trees remaining from an original native stand of California Live Oaks, Sycamores, and Toyons
- A tree or stand of trees that is scenically prominent from public view corridors

The trees present within the Study Area are ornamental and consist of Eucalyptus trees and other non-native species. Therefore, these trees would not be considered eligible for designation as heritage trees under LBMC Chapter 12.08.

Habitat Conservation Plans

The project site is located in the plan area of the Orange County Central/Coastal Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP) to which the City is not a signatory. Therefore, the project is not subject to an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan.

Impact Analysis and Mitigation Measures

This section discusses the possible adverse impacts to biological resources that may occur from implementation of the project and recommends appropriate actions to avoid or minimize potential impacts.

Special-Status Species

As discussed above, 42 special-status plant species within the six-quad search area and 25 special-status wildlife species within five miles of the Study Area are known to occur or have potential to occur.

Special-Status Plant Species

The Study Area does not provide suitable habitat for most special-status plant species given its lack of suitable soils, inappropriate hydrologic conditions, or absence of appropriate vegetation communities. Of the 42 species evaluated, only cliff spurge was observed within the Study Area during the focused rare plant survey and is thus the focus of this analysis. Cliff spurge has a CRPR rank of 2B.2.

Ground-disturbing activities during installation of the proposed access road and stormwater control improvements associated with the project may result in direct impacts (removal) to a small number of cliff spurge individuals located near the edges of the access road. Direct impacts could include crushing individuals from vehicle traffic, or direct removal of an individual during project site grading or stormwater improvement installation. However, the small number of cliff spurge individuals that may be removed would not constitute a significant impact to the cliff spurge population within the Study Area. Most of the cliff spurge individuals are located within habitat that is further away from the road, and these areas contain a higher habitat value than that found adjacent to the existing road. As a result, any direct impacts to this species would be less than significant under CEQA because most of the cliff spurge population in the Study Area would be left intact.

Indirect impacts could occur from fugitive dust or due to the spread of invasive, non-native species from construction equipment and landscaping. However, given that most of the cliff spurge population is located away from the existing access road, any indirect impacts would be less than significant under CEQA.

Special-Status Wildlife Species and Nesting Birds

Two special-status wildlife species have moderate potential to occur within the Study Area. The coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*) is designated SSC, and the southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) is designated CDFW Watch List (WL). While project impacts would take place primarily within the existing fenced reservoir facility and along the unpaved access road, the Study Area surrounding these developed areas contains habitat for these

special-status bird species, and it is possible they may briefly transit through the project site or adjacent areas when moving to and from different locations within the surrounding landscape.

Direct impacts could result if ground-disturbing activities directly affect coastal cactus wren, southern California rufous-crowned sparrow, or other nesting birds by destroying a nest. Indirect impacts could occur if activities result in abandonment of an occupied roosting or nesting sites within or adjacent to the project site during the nesting season. Additional indirect impacts could result from noise, vibrations, and dust from construction activities. Noise, vibrations, and dust can cause impacts by causing birds to flush out of cover and become exposed to predators or vehicle strikes. Noise, dust, and vibrations may also cause avian species to leave regular foraging areas within and adjacent to the project site. As a result, project construction activities could potentially directly or indirectly impact transient individuals of coastal cactus wren, southern California rufous-crowned sparrow, or other nesting bird species. Potential project impacts would occur during construction only and would be temporary. Operation of the proposed project would be similar to existing conditions; thus, no additional noise impacts would occur during operation.

Coastal cactus wren and southern California rufous-crowned sparrow may nest on site in vegetation within the Study Area. In addition, migratory or other common nesting birds, while not designated as special-status species, are protected by the CFGC and MBTA and may also nest on site in vegetation within the Study Area. Therefore, construction of the project has the potential to directly (i.e., by destroying a nest) or indirectly (i.e., through construction noise, dust, and other human disturbances that may cause a nest to fail) impact special status wildlife species and other nesting birds protected under the CFGC and MBTA. MM-3 would minimize potential impacts to coastal cactus wren and southern California rufous-crowned sparrow and achieve compliance with CFGC 3503 and the MBTA through implementation of a pre-construction nesting bird survey if construction commences during the nesting bird season (typically February 1 to August 31). If active nests are identified, buffers would be implemented to minimize impacts to nesting birds.

In the context of the larger landscape, coastal cactus wren, southern California rufous-crowned sparrow, or other nesting bird species are not restricted to the Study Area, and there is other suitable habitat adjacent to and surrounding the Study Area. Any project-related activities that result in loss of immediate local nesting opportunities or create noise would have a limited impact to the immediate vicinity and would not impact the populations of these special-status species as whole. Therefore, indirect impacts to these species would be less than significant.

MM-1 Nesting Birds

Project-related activities shall occur outside of the bird breeding season (February 1 to August 31) to the extent practicable. If construction must occur within the bird breeding season, then no more than 14 days prior to initiation of ground disturbance and/or vegetation removal, a nesting bird pre-construction survey shall be conducted by a qualified biologist within the disturbance footprint plus a 300-foot buffer, where feasible. If the proposed project is phased or construction activities stop for more than two weeks during bird breeding season, a subsequent pre-construction nesting bird survey shall be completed prior to each phase of construction.

Pre-construction nesting bird surveys shall be conducted during the time of day when birds are active and shall factor in sufficient time to perform this survey adequately and completely. A report of the nesting bird survey results, if applicable, shall be submitted to SCWD for review and approval prior to ground and/or vegetation disturbance activities.

If nests are found, their locations shall be flagged to facilitate avoidance. An appropriate avoidance buffer of 150 feet for passerines and up to 300 feet for raptors, depending on the proposed work activity, shall be determined by a qualified biologist and demarcated with bright orange construction fencing or other suitable flagging. Active nests shall be monitored at a minimum of once per week until it has been determined the nest is no longer being used by either the young or adults. No ground disturbance shall occur within this buffer until the qualified biologist confirms the breeding/nesting is completed and all the young have fledged. If project activities must occur within the buffer, they shall be conducted at the discretion of the qualified biologist. If no nesting birds are observed during pre-construction survey, no further action would be necessary.

Sensitive Plant Communities

No sensitive plant communities were observed in the Study Area. Therefore, no direct or indirect impacts to sensitive plant communities would occur. No further actions are recommended.

Jurisdictional Waters and Wetlands

One potentially jurisdictional feature consisting of an unnamed ephemeral drainage is located in the Study Area. The unnamed ephemeral drainage is potentially subject to RWQCB and CDFW jurisdiction because the drainage contains bed, bank, and channel features. The drainage conveys sheet flows southwest from the Reservoir 2B location towards the unpaved access road and Ceanothus Drive. The second drainage feature observed in the Study Area was determined to be a non-jurisdictional swale due to a lack of a defined OHWM, bed, bank, and channel.

The unnamed ephemeral drainage contains 0.68 acre and 243 linear feet of potential non-wetland waters potentially subject to the jurisdiction of the RWQCB and CDFW within the Study Area. Approximately 0.01 acre and 36 linear feet of the drainage falls within the project site boundary.

The proposed project consists of the demolition of the existing Reservoir 2B and the construction of two new reservoirs, paving of the unpaved access road, installation of power supply improvements within the access road alignment, and installation of stormwater control improvements consisting of three culverts, one concrete v-ditch, and six energy dissipators and/or rip-rap hard surfaces to allow runoff to pass under and along the access road rather than across it. No wetlands or waters are present at the reservoir facility, and reservoir replacement would not affect these resources. Existing drainage patterns would be maintained by the proposed stormwater control improvements. While most of the road and stormwater improvements would occur outside jurisdictional waters, a small segment (approximately 0.01 acre and 36 linear feet) of the unnamed ephemeral drainage would be realigned away from the roadway and into the proposed concrete V-ditch. This drainage segment currently flows on and adjacent to the roadway, is unvegetated, and has minimal aquatic resource function. Because the proposed improvements would maintain the existing drainage patterns and eliminate the need for flows to cross the road surface during storms, the project would not adversely impact the function, scenic or ecological purpose of the watershed and existing drainages within the Study Area (MKN 2022). Therefore, impacts to the potentially jurisdictional drainage would be less than significant.

Project implementation may be subject to the permit requirements of the RWQCB under the Porter-Cologne Act and may require notification to the CDFW pursuant to CFGC Sections 1600 et. seq. Coordination with the RWQCB and CDFW is recommended to confirm the limits of jurisdiction and establish any applicable permitting needs.

Wildlife Movement

Wildlife movement and habitat fragmentation are important issues in assessing impacts to wildlife. Habitat fragmentation occurs when a proposed action results in a single, unified habitat area being divided into two or more areas in such a way that the division isolates the two new areas from each other. Isolation of habitat occurs when wildlife cannot move freely from one portion of the habitat to another or from one habitat type to another, as in the fragmentation of habitats within and around "checkerboard" residential development. Examples of barriers or impediments to movement include housing and other urban development, roads, fencing, unsuitable habitat, or open areas with little vegetative cover. Habitat fragmentation also can occur when a portion of one or more habitats is converted into another habitat, as when annual burning converts scrub habitats to grassland habitats.

The open space to the north and northeast of the Study Area is within the Aliso and Wood Canyons Wilderness Park, which connects to the Laguna Coast Wilderness Park and Crystal Cove State Park open space areas approximately five miles northwest of the Study Area. These open space areas contain habitat likely supporting local and regional movement. The proposed project activities would be limited to areas within and adjacent to the previously developed Reservoir 2B site and access road, which offer little to no value to wildlife movement. Therefore, the proposed project would not affect localized wildlife movement, create habitat fragmentation in the region, or have a significant impact on regional wildlife movement. Direct impacts to wildlife movement as a result of project implementation would be less than significant. Construction activity would generate temporary noise in the project site vicinity due to the usage of heavy-duty diesel construction equipment, which may lead to alteration of feeding and breeding patterns. However, these impacts would be short-term, and as mentioned previously, the project site and immediately surrounding area offer little to no value to wildlife movement. Upon completion of construction, operational activities at the project site would be the same as under existing conditions. Therefore, indirect impacts to wildlife movement would also be less than significant. No further actions are recommended.

Resources Protected by Local Policies and Ordinances

Open Space Areas

The project site is zoned as an open space area, as defined by the LBMC Chapter 25.41. Public utility facilities are not a permitted use in the Open Space/Conservation zone (LBMC Sections 25.41.004 and 25.41.006); however, per LBMC Section 25.56.018, any public utility use existing in any building or structure or on any premises at the time of the adoption of the zoning ordinance (i.e., 1994) shall be deemed to be a conforming use or a conforming structure in whatever district said use is conducted or whatever district said structure is located. The existing Reservoir 2B was constructed in 1946; therefore, the public utility use of the project site is a conforming use. Furthermore, although the project site is adjacent to open space land uses, the proposed project would occur primarily within the existing development footprint. In addition, the proposed stormwater control improvements would be installed within 10 feet of the existing access road with the exception of the culvert and energy dissipator immediately south of the reservoir location, which would be installed within 30 feet of the existing disturbed footprint of the reservoir location. These improvements would maintain existing drainage patterns and would not impact the function of the open space land surrounding the existing development footprint. Therefore, the proposed project would not reduce or impact open space within or adjacent to the project site, and no conflict with local polices and ordinances would occur.

City of Laguna Beach General Plan and Local Coastal Program

The City's General Plan and LCP contain objectives and policies for biological resources relevant to the proposed project given its location and/or proposed activities. As identified above, these objectives and policies focus on conservation of existing natural areas; protection of sensitive habitat (including wildlife corridors); and protection of endangered species and heritage trees.

The proposed project proposes replacement of an existing reservoir and its appurtenant features with two new reservoirs within the current fenced limits of the reservoir facility as well as paving of the existing access road and installation of power supply and stormwater drainage improvements. In compliance with the objectives and policies outlined under *Regulated Biological Resources – Resources Protected by Local Policies and Ordinances*, the project would not significantly impact:

- Heritage trees because these resources are not present within the Study Area;
- Endangered or threatened species and habitat because project impacts would be limited to the existing development footprint, protocol-level surveys to detect coastal California gnatcatcher were negative, and implementation of MM-1 would require nesting bird surveys to avoid potential impacts to special status wildlife species; or
- Wildlife movement and corridors because there are no documented wildlife corridors or linkages in the Study Area.

In addition, while the project would include the construction of two new reservoirs and roadway, drainage, and power supply improvements, the existing development area would not be expanded. Therefore, the project would not conflict with the Laguna Beach General Plan and LCP, and no further actions are recommended.

Environmentally Sensitive Areas

A small portion of the Study Area overlaps with habitat considered to be High Value and Very High Value by the City (Attachment 1, Figure 7). The area to the east and north of the reservoir site is mapped as High Value Habitat, and the area north of the access road is mapped as Very High Value Habitat. The City defines High Value Habitat as areas dominated by native plant communities and that possess high species diversity. These areas are often, but not always, adjacent to large open space areas, or linked to open space areas via traversable open space corridors. Additionally, areas identified as High Value Habitat include locales of maritime desert scrub and ceanothus chaparral (*Ceanothus leucodermis)*, due to the locally unique character of these plant communities. The City defines Very High Value Habitat as habitats that include rare, endangered, or locally unique native plant species as well as areas of southern oak woodland and natural springs and seeps.

While the Study Area is adjacent to open space areas considered High Value and Very High Value Habitat, the portions of these habitats within the Study Area have been previously disturbed by construction of the existing Reservoir 2B and its access road. Additionally, while native plant communities occur throughout the Study Area, no rare plants were observed within the High Value or Very High Value portions of the Study Area.

The proposed project would be primarily limited to the existing developed portions of the Study Area. In addition, the proposed stormwater control improvements would be installed within 10 feet of the existing access road with the exception of the culvert and energy dissipator immediately south of the reservoir location, which would be installed within 30 feet of the existing disturbed footprint of the

reservoir location. These improvements would maintain existing drainage patterns and would not significantly impact the function of the habitat surrounding the existing development footprint. Therefore, the project would not substantially encroach into environmentally sensitive areas, and impacts to these areas would be less than significant.

Protected Trees

No trees are present within the project footprint. The trees present within the Study Area are ornamental and consist of Eucalyptus trees and other non-native species not considered heritage trees under the LBMC Chapter 12.08. Therefore, the project would not conflict with the City's tree ordinance, and no further actions are recommended.

Habitat Conservation Plans

The project site is located in the Plan area of the Orange County Central/Coastal NCCP/HCP to which the City is not a signatory. Therefore, the project is not subject to an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan. No impact would occur.

Limitations, Assumptions, and Use Reliance

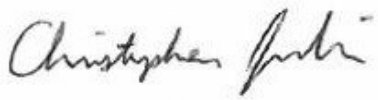
This Biological Resources Assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Biological surveys for the presence or absence of certain taxa were not conducted by Rincon as part of this assessment and were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

Thank you for the opportunity to provide this Biological Resources Assessment. Please contact the undersigned with any questions.

Sincerely,
Rincon Consultants, Inc.

Tess Hooper
Biologist/Environmental Planner

Eric Schaad
Senior Biologist



Christopher Julian
Principal Biologist

Attachments

Attachment 1	Figures
Attachment 2	Site Photographs
Attachment 3	2022 Focused California Gnatcatcher Survey 45-Day Report
Attachment 4	Species Detected During Field Reconnaissance Survey
Attachment 5	Special-Status Species Potential to Occur
Attachment 6	Focused Rare Plant Survey Report
Attachment 7	Aquatic Resources Delineation Report

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Attachment 1

Figures

Figure 1 Regional Location

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Project Location

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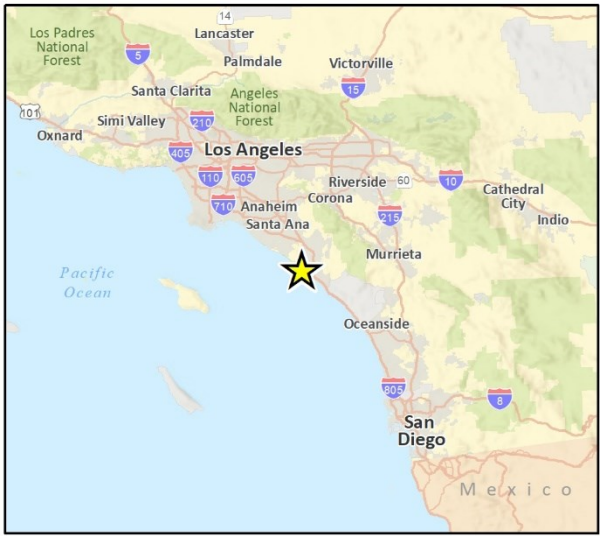

Figure 2 Project Location

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Figure 3 Preliminary Site Plan of Replacement Reservoirs

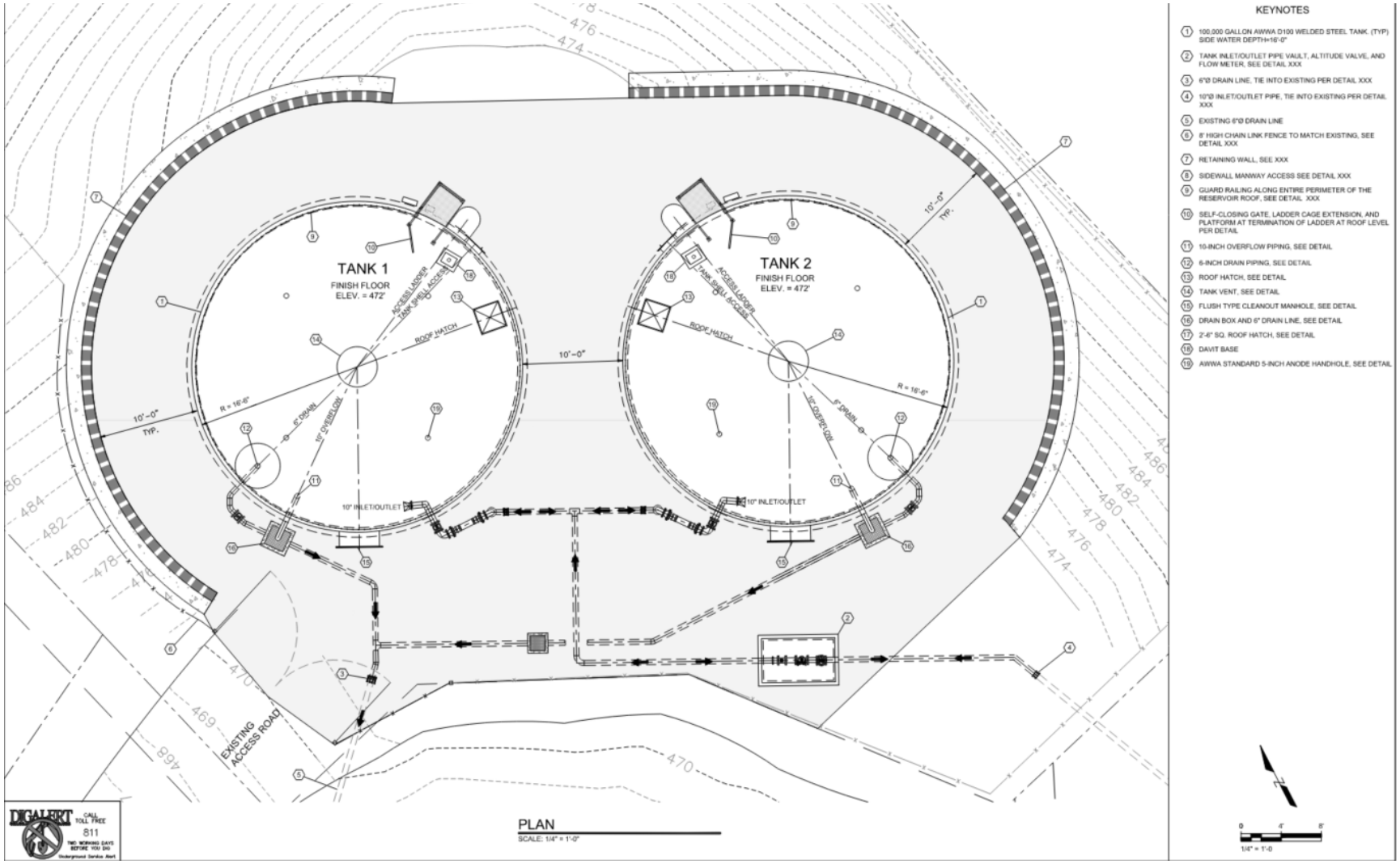

Figure 4 Vegetation Communities and Land Cover Types

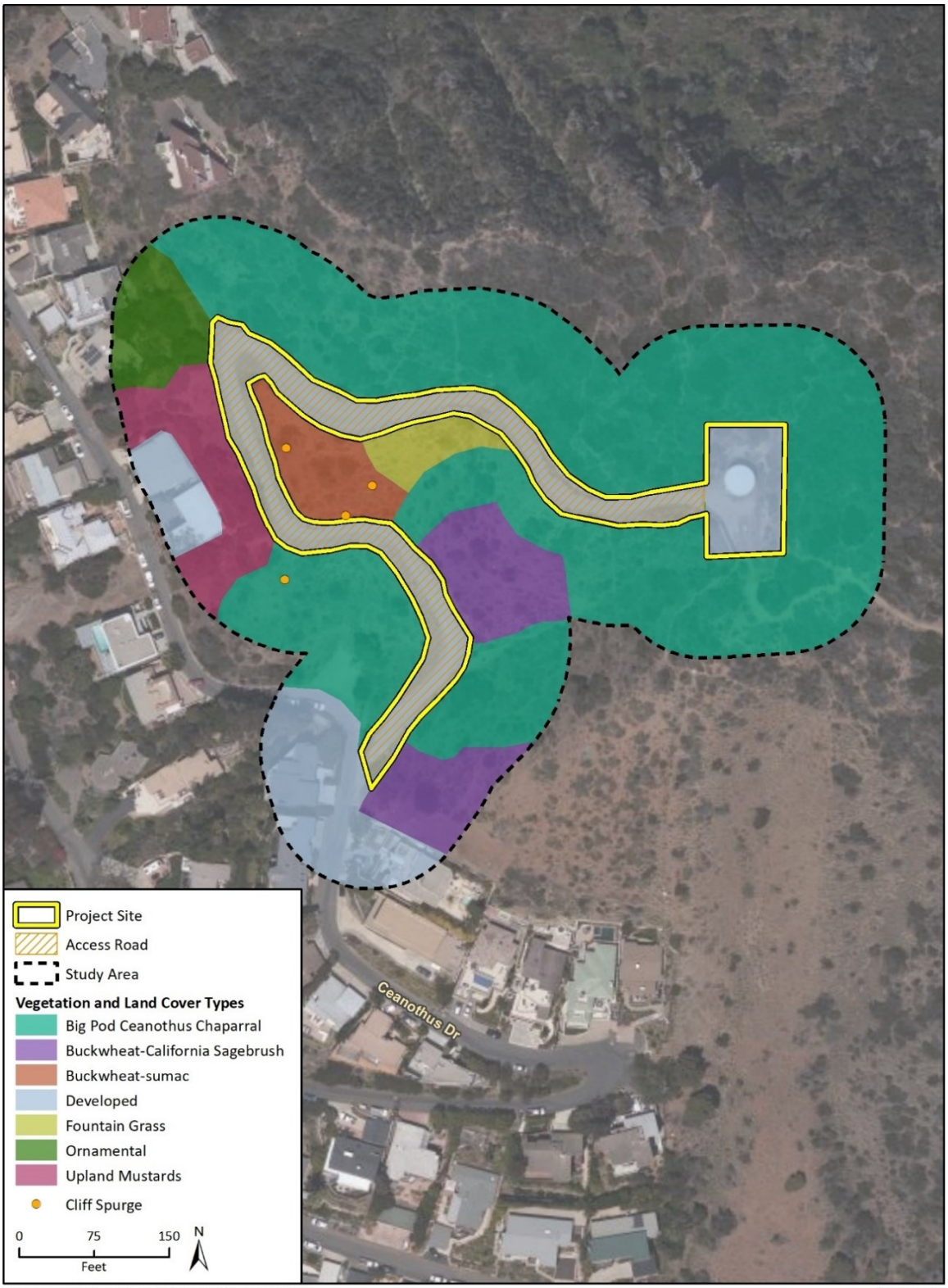

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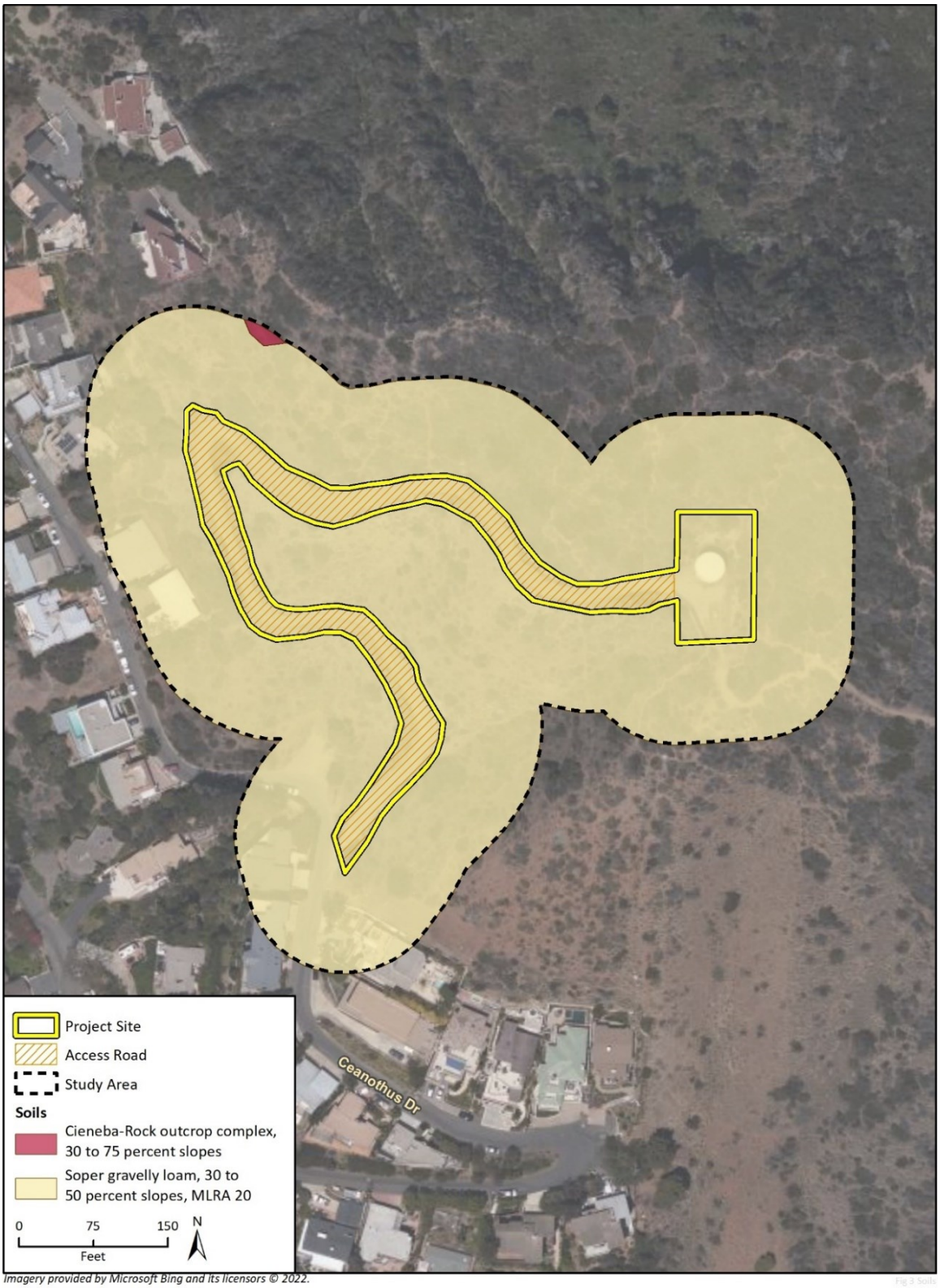
Figure 5 Soils on Project SIte



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Additional data provided by USDA, 2021.

Figure 6 Jurisdictional Delineation Results

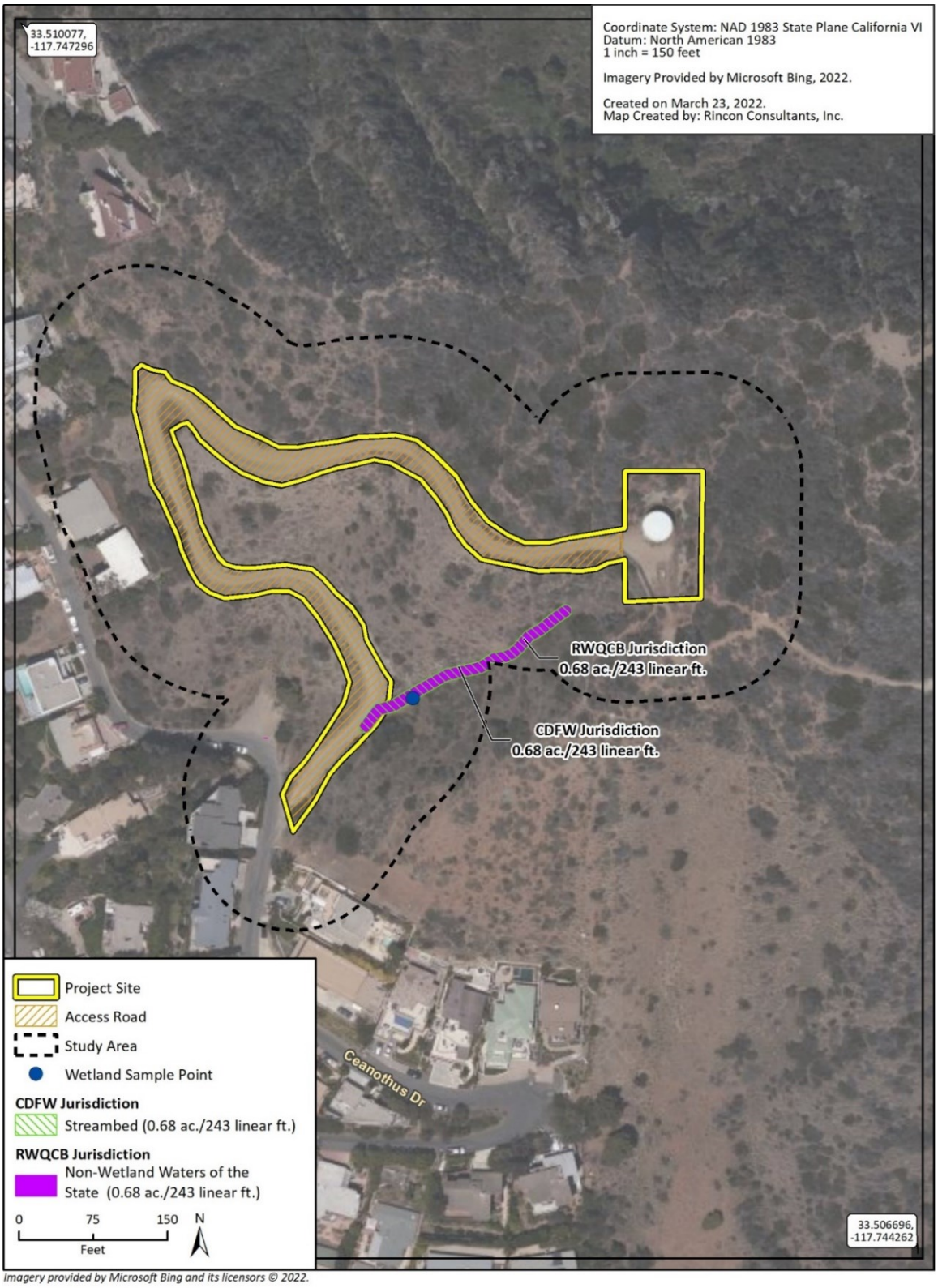

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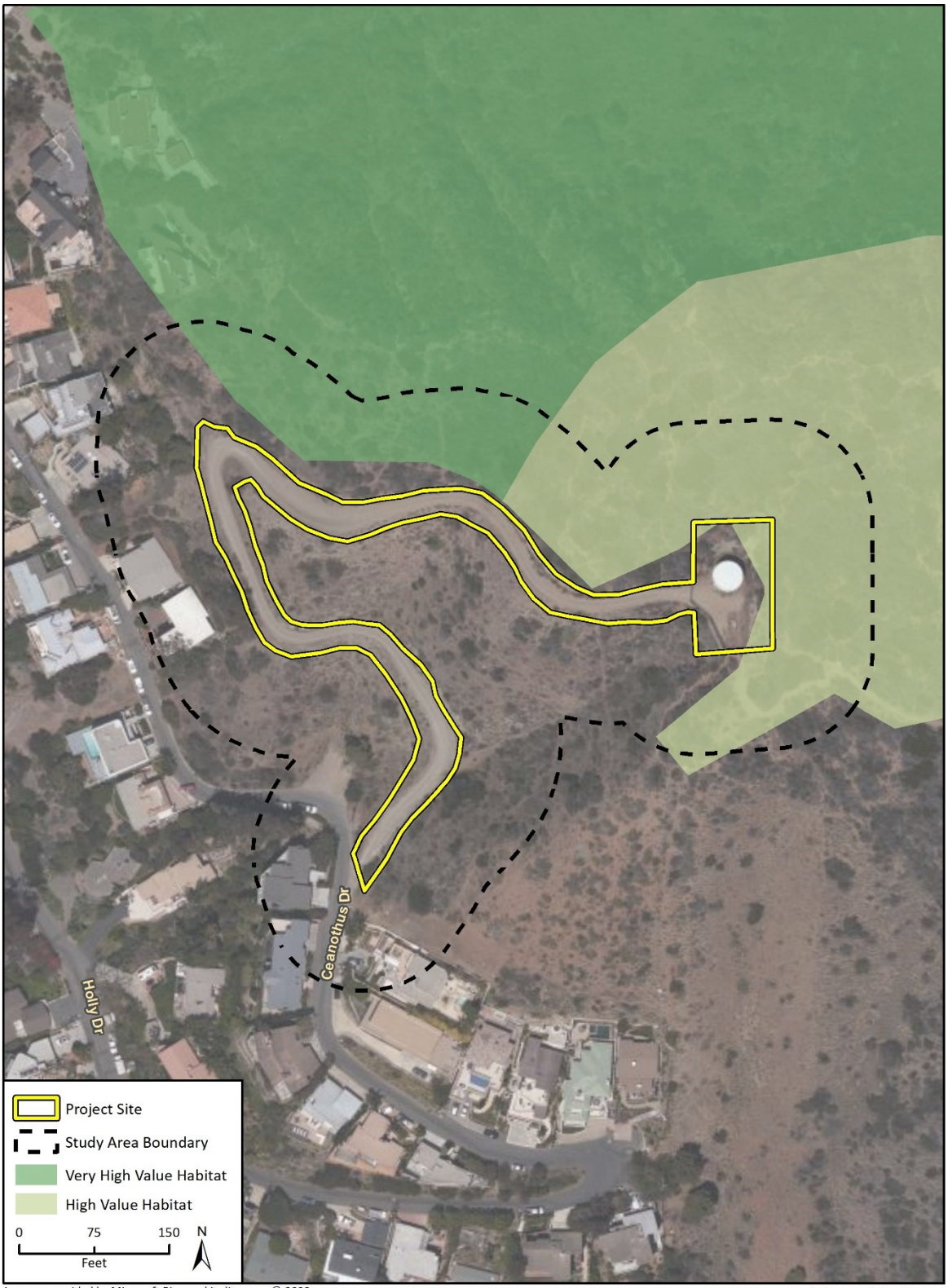
Figure 7 Environmentally Sensitive Areas within Study Area



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Additional data referenced from City of Laguna Beach, 2022.

Attachment 2

Site Photographs

Photograph 1. Photo of the existing Reservoir 2B from the unpaved access road, facing east.

Photograph 2. View from the southeast corner of the existing fenced Reservoir 2B site, facing north.

Photograph 3. View of Study Area, facing north towards existing fenced Reservoir 2B.

Photograph 4. View of unpaved access road, facing northwest.

Photograph 5. Southwest view of big pod ceanothus chaparral habitat, facing west toward the Pacific Ocean.

Photograph 6. California buckwheat scrub and fountain grass within the Study Area.

Photograph 7. View of cliff spurge (CNPS rank 2B.2) along unpaved access road.

Photograph 8. View of the unpaved access road, facing southwest towards Ceanothus Drive.

Attachment 3

2022 Focused California Gnatcatcher Survey 45-Day Report

DUDEK
27372 CALLE ARROYO
SAN JUAN CAPISTRANO, CALIFORNIA 92675
T 949.450.2525 F 949.450.2626

U.S. Fish and Wildlife Service
Attn: Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

April 6, 2022

Subject: 2022 Focused California Gnatcatcher Survey 45-Day Report for the South Coast Water District Reservoir 2B Replacement Project Located in the City of Laguna Beach, Orange County, California

Dear Recovery Permit Coordinator,

This report documents the methods and results of protocol-level presence/absence surveys conducted for the coastal California gnatcatcher (*Polioptila californica californica*; CAGN). Focused surveys were conducted throughout all areas of suitable habitat on the proposed South Coast Water District Reservoir 2B Replacement Project (project) in the City of Laguna Beach, Orange County, California (Attachment A: Figure 1-Project Location). The proposed project will be located on a portion of Assessor's Parcel Numbers 658-191-03 and -04. The survey area for the project totals approximately 1.5 acres, which includes the existing water tank facility and an approximately 500-foot buffer extending in all directions from the water tank (Attachment A: Figure 2-CAGN Survey). The proposed project consists of demolishing and replacing the existing Reservoir 2B tank with either a larger single tank, or two tanks.

The survey will cover areas that support suitable coastal sage scrub habitat (i.e., California sagebrush scrub, California buckwheat scrub, black sage scrub, white sage scrub, purple sage scrub, brittle bush scrub, and associations) which primarily includes the undeveloped areas surrounding the existing water tank and access road. The existing coastal sage scrub habitat intergrades with chaparral habitat at higher elevations.

Surveys will conform to the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS) *Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Protocol*. Dudek's USFWS-permitted biologists Tommy Molioo (TE02412D-0) and Erin Bergman (TE813545-5) conducted 9 (nine) survey visits covering the entire survey area. Focused surveys for coastal California gnatcatcher were spaced two weeks apart during the non-breeding season (July 1 through March 14). Focused surveys commenced 15 days after the USFWS's receipt of the 15-Day Notification submitted for this project, per recovery permit requirements.

The CAGN is federally listed as threatened and a California Department of Fish and Wildlife (CDFW) Species of Special Concern. It is closely associated with coastal sage scrub habitat and typically occurs below 950 feet elevation and on slopes less than 40% (Atwood 1990), but CAGN have also been observed at elevations greater than 2,000 feet. The species is primarily threatened by loss, degradation, and fragmentation of coastal sage scrub habitat, and is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism (Braden et al. 1997).

LOCATION AND EXISTING CONDITIONS

The survey area for the project is located on a south-facing slope at and around an existing water tank facility and its associated dirt access road. The immediate surroundings are generally undeveloped and contain a mix of coastal sage scrub and chaparral habitats. Surrounding conditions includes residential development on hillsides to the south and west that generally descend towards the Pacific Ocean, with open habitat areas along the hills that ascend to the east. Access to the survey area and water tank is gained via Toovet Trail.

Suitable habitat within the survey area occurs within undeveloped areas surrounding the project site. The undeveloped portions of the survey area are dominated by a moderate quality coastal sage scrub and mixed chaparral community on steep hillsides. The existing developed portions of the survey area do not contain suitable habitat for CAGN. Land use within the survey area is mixed with the water tank, hiking trail, and undeveloped open space in all directions. Topographic features within the survey area include foothills with minor ravines on the slopes to the east. The survey area occurs at an elevation ranging between 300 and 600 feet above mean sea level. Representative photographs of the study area are included in Attachment B.

VEGETATION COMMUNITIES

The survey area for the project site includes a total of approximately 1.5 acres, encompassing the project site plus a 500-foot buffer, and is characterized by residential development and open space consisting of native upland vegetation communities. One vegetation community was identified as potentially suitable CAGN habitat within the survey area, *Artemisia californica-Eriogonum fasciculatum* (AC-EF) Alliance, which is described in detail below.

Artemisia californica-Eriogonum fasciculatum Alliance

This community is co-dominated by California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*) as the co-dominant species in the shrub canopy. This alliance has an intermittent to continuous canopy with most shrubs less than 2 meters and some less than 5 meters in height with a seasonally present herbaceaous layer. Species generally associated with this alliance include chamise (*Adenostoma fasciculatum),* bush monkey flower *(Diplacus aurantiacus),* California joint fir (*Ephedra californica),* narrowleaf goldenbush *(Ericameria linearifolia),* chaparral yucca *(Hesperoyucca whipplei),* deer weed *(Lotus scoparius),* laurel sumac *(Malosma laurina),* lemonade berry *(Rhus integrifolia),* sugarbush *(Rhus ovata)* and white sage *(Salvia apiana).*

The *Artemisia californica-Eriogonum fasciculatum* alliance was mapped throughout the survey area, interspersed with chaparral habitats in higher elevation areas. Due to the construction of the adjacent residential development to the south and west, which has caused fragmentation of the native habitats within the survey area, the majority of the vegetation within the survey area is of relatively moderate quality due to limited distribution and species diversity.

METHODS

The presence/absence focused survey for CAGN was conducted for the project during the non-breeding season between November 23, 2021 and March and March 16, 2022. The survey was conducted within weather conditions and time frames appropriate for the detection of gnatcatchers. Weather conditions and survey dates are provided below in Table 1. Survey routes are shown in Attachment A - Figure 2. The survey routes focused on

surveying the highest quality coastal sage scrub habitat observed that could be accessed from established trails, but also encroached into chaparral habitat areas where gnatcatchers could take cover during foraging. Lower quality scrub habitat in lower elevation areas along the dirt access road were also surveyed as potential dispersal sites.

Table 1: Survey Dates and Conditions

Survey Pass	Date	Time	Personnel[2]	Survey Conditions[1]	Presence/Absence
1	11/23/2021	0630-0830	EB	70-72°F; 1–2 mph; 0% cc	Absent
2	12/8/2021	0730-0830	TM	53-57°F; 1-2 mph; 0% cc	Absent
3	12/22/2021	0900-1000	TM	55-59°F; 0–1 mph; 0% cc	Absent
4	1/5/2022	0830-0930	TM	60-62°F; 1-2 mph; 20% cc	Absent
5	1/19/2022	0900-1000	TM	60–64°F; 0–2 mph; 40% cc	Absent
6	2/2/2022	0845-1000	TM; KN	55-60°F; 2–10 mph; 0% cc	Absent
7	02/16/2022	0900-1000	TM; KN	53-55°F; 0–3 mph; 0% cc	Absent
8	3/3/2022	0900-1000	TM	58-60°F; 1–2 mph; 10% cc	Absent
9	3/16/2022	0930-1030	TM	65-67°F; 1–3 mph; 0% cc	Absent

Survey Conditions: temperature in °F = degrees Fahrenheit; wind in mph = miles per hour; % cc = cloud cover. **Personnel:** TM = Tommy Molioo, Dudek Senior Biologist (TE02412D-0); Erin Bergmann, Dudek Senior Biologist (TE 813545-5); KN = Kimberly Narel, Dudek Biologist

The survey was conducted following the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS), *Coastal California Gnatcatcher* (*Polioptila californica californica*) *Presence/Absence Survey Protocol* (USFWS 1997). The survey area occurs within the Draft Southern Subarea Plan of the Orange County Natural Community Conservation Program/Habitat Conservation Plan (NCCP/HCP), but because the NCCP/HCP is still in draft form, the project is not required to adhere to any policies or guidelines presented in the plan as they pertain to the protection of biological resources. Additionally, the applicant is not a signatory to the NCCP/HCP and is not afforded take coverage proposed by the NCCP/HCP. Therefore, the CAGN focused survey included nine survey passes at a minimum of 14-day intervals between visits during the non-breeding season (July 1 through March 14). In accordance with the protocol, no more than 80 acres of suitable habitat were surveyed by a single permitted biologist during each site visit conducted. Survey routes completely covered all areas of suitable CAGN habitat within the survey area and allowed for complete audible and visual coverage of all suitable CAGN habitat on site (Attachment A: Figure 2-CAGN Survey).

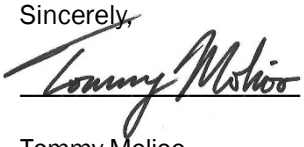
A 200-scale topographic map (1 inch = 200 feet) overlain with vegetation polygons and the survey area was utilized during the survey. Additionally, digital mobile maps were utilized during the surveys to assist in navigating each survey area. Appropriate binoculars (e.g., 8x42 through 10x50 magnification) were used to aid in detecting and identifying bird species. A recording of gnatcatcher vocalizations was played approximately every 50–100 feet to induce responses from potentially present gnatcatchers. Vocalization-playback would have been terminated immediately upon detection of any gnatcatchers to minimize the potential for harassment.

RESULTS

No CAGN were visually observed or auditorily detected during the nine focused survey passes. No sign of nesting was observed as well. Additionally, no similar species such as blue-grey gnatcatcher were observed. Therefore, the project is considered absent of CAGN and no project impacts will occur. A full list of bird species observed during the survey and within proximity of the survey area is provided in Attachment C.

I certify that the information in this survey report and attached exhibits fully and accurately represent our work.

Sincerely,



Tommy Molioo
Senior Biologist
TE02412D-0

Att: *A-Figures 1 and 2*
B-Site Photographs
C-Species Compendium

Attachment A

Figures 1 and 2

SOURCE: USGS National Map 2022; Bing Maps 2022

DUDEK

0 100 200 Feet

FIGURE 1

Project Location

Reservoir 2B Replacement Project

SOURCE: Bing Maps 2022

DUDEK

0 110 220 Feet

FIGURE 2

California Gnatcatcher Survey

Reservoir 2B Replacement Project

Attachment B
Site Photographs

Attachment B: Site Photographs

Photo 1: Facing north towards lower quality CSS habitat on lower elevation slopes.

Photo 2: Facing north towards the water tank in the center of the survey area.

Photo 3: Facing southwest towards CSS on adjacent slopes

Photo 4: Facing east towards chaparral habitat adjacent to the water tank.

Attachment C
Species Compendium

Wildlife Species Observed

Birds

BUSHTITS

AEGITHALIDAE—LONG-TAILED TITS & BUSHTITS

Psaltriparus minimus—bushtit

FINCHES

FRINGILLIDAE – TRUE FINCHES

Carpodacus mexicanus – house finch

FLYCATCHERS

TYRANNIDAE – TYRANT FLYCATCHERS

Sayornis nigricans—black phoebe

HAWKS

ACCIPITRIDAE – HAWKS, EAGLES, KITES, HARRIERS, AND VULTURES

Chordata hudsonius – northern harrier

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird

Selasphorus sasin – Allen’s hummingbird

JAYS, MAGPIES & CROWS

CORVIDAE—CROWS & JAYS

Aphelocoma californica—California scrub-jay

MOCKINGBIRDS & THRASHERS

MIMIDAE—MOCKINGBIRDS & THRASHERS

Toxostoma redivivum—California thrasher

NEW WORLD SPARROWS

PASSERELLIDAE—NEW WORLD SPARROWS

Melospiza melodia—song sparrow

Melozone crissalis – California towhee

Zonotrichia leucophrys – white-crowned sparrow

NEW WORLD WARBLERS

PARULIDAE —NEW WORLD WARBLERS

Setophaga coronata—yellow-rumped warbler

WRENTITS

TIMALIIDAE—BABBLERS

Chamaea fasciata—wrentit

TROGLODYTIDAE — WRENS

Thryomanes bewickii— Bewick's wren

Attachment 4

Species Detected During Field Reconnaissance Survey

Plant and Wildlife Species Detected in the Study Area on December 2, 2021

Scientific Name	Common Name	Status	Native or Introduced
Plants			
Acacia melanoxylon	Black *Acacia*	Cal-IPC Limited	Introduced
Acmispon glaber	Deerweed	–	Native
Artemisia californica	California sagebrush	–	Native
Asparagus aethiopicus	Asparagus fern	Cal-IPC Watch	Introduced
Bougainvillia glabra	Lesser bougainvillea	–	Introduced
Bougainvillia spectabilis	Greater bougainvillea	–	Introduced
Brassica sp.	Mustard sp.		Introduced
Bromus diandrus	Ripgut brome	Cal-IPC Moderate	Introduced
Ceanothus megacarpus	Big pod ceanothus	–	Native
Centaurea melitensis	Tocalote	Cal-IPC Moderate	Introduced
Crassula ovata	Jade	–	Introduced
Cylindropuntia prolifera	Coast cholla	–	Native
Cynodon dactylon	Bermuda grass	Cal-IPC Moderate	Introduced
Digitaria sp.	Crabgrass sp.	–	Introduced
Encelia californica	California brittlebush	–	Native
Eriogonum fasciculatum	California buckwheat	–	Native
Eucalyptus sp.	Eucalyptus sp.	Cal-IPC Watch and Limited	Introduced
Euphorbia misera	Cliff spurge	–	Native
Foeniculum vulgare	Fennel	Cal-IPC Moderate	Introduced
Hirschfeldia incana	Short-pod mustard	Cal-IPC Moderate	Introduced
Juniperus ashei	Ashe juniper	–	Native
Malacothamnus fasciculatus	Chaparral mallow	–	Native
Malosma laurina	Laurel sumac	–	Native
Mimulus aurantiacus	Sticky monkey flower	–	Native
Nicotiana glauca	Tree tobacco	Cal-IPC Moderate	Introduced
Opuntia ficus-indica	Prickly pear	–	Introduced
Opuntia littoralis	Coastal prickly pear	–	Native
Pennisetum setaceum	Fountain grass	Cal-IPC Moderate	Introduced
Ravenala madagascariensis	Traveler's palm	–	Introduced
Rhus integrifolia	Lemonade berry	–	Native
Salsola tragus	Russian thistle	Cal-IPC Limited	Introduced
Salvia mellifera	Black sage	–	Native
Solanum umbelliferum	Bluewitch nightshade	–	Native
Xylococcus bicolor	Mission manzanita	–	Native

Scientific Name	Common Name	Status	Native or Introduced
Wildlife			
Birds			
Calypte anna	Anna's hummingbird	–	Native
Catharus guttatus	Hermit thrush	–	Native
Chamaea fasciata	Wrentit	–	Native
Corvus brachyrhynchos	American crow	–	Native
Melozone crissalis	California towhee	–	Native
Passerculus sandwhicensis	Savannah sparrow	–	Native
Setophaga coronata	Yellow-rumped warbler	–	Native
Thryomanes bewickii	Bewick's wren	–	Native
Zonotrichia leucophrys	White-crowned sparrow	–	Native

Sources: Rincon Consultants biological resources reconnaissance field survey on December 2, 2021; Calflora 2022; California Invasive Plant Council (Cal-IPC) 2022, which ranks introduced species according to their level of invasiveness.

Attachment 5

Special-Status Species Potential to Occur

Special-Status Species Potential to Occur

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Plants				
Abronia maritima red sand-verbena	None/None G4/S3? 4.2	Perennial herb. Coastal dunes. Dune plant. Elevations: 0-330ft. (0-100m.) Blooms Feb-Nov.	Not Expected	The Study Area does not contain suitable dune habitat or sandy soils to support this species. Additionally, there are no CNDDB occurrences within five miles of the Study Area.
Aphanisma blitoides aphanisma	None/None G3/S1S2 1B.2	Annual herb. Coastal bluff scrub, coastal dunes, coastal scrub. Gravelly (sometimes), sandy (sometimes). Elevations: 5-1000ft. (1-305m.) Blooms Feb-Jun.	Not Expected	The Study Area does not contain suitable dune habitat or sandy soils to support this species. There is one presumed extant CNDDB occurrence of this species over three miles from the Study Area. There are two additional presumed extant CNDDB occurrences within five miles of the site, although they are historical occurrences (over 75 years old)
Astragalus brauntonii Braunton's milk-vetch	FE/None G2/S2 1B.1	Perennial herb. Chaparral, coastal scrub, valley and foothill grassland. Recent burns or disturbed areas; usually on sandstone with carbonate layers. Soil specialist; requires shallow soils to defeat pocket gophers and open areas, preferably on hilltops, saddles or bowls between hills. Elevations: 15-2100ft. (4-640m.) Blooms Jan-Aug.	Not Expected	While chaparral and coastal scrub are present, the Study Area does not contain suitable soils to support this species. Additionally, there are no CNDDB occurrences within five miles of the Study Area.
Astragalus hornii var. *hornii* Horn's milk-vetch	None/None GUT1/S1 1B.1	Annual herb. Meadows and seeps, playas. Alkaline, lake margins. Elevations: 195-2790ft. (60-850m.) Blooms May-Oct.	Not Expected	The Study Area does not contain suitable aquatic features to support this species. Additionally, there are no CNDDB occurrences within five miles of the Study Area.
Atriplex coulteri Coulter's saltbush	None/None G3/S1S2 1B.2	Perennial herb. Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Alkaline (sometimes), clay (sometimes). Elevations: 10-1510ft. (3-460m.) Blooms Mar-Oct.	Not Expected	While there is coastal scrub present on site, the Study Area lacks suitable soils to support this species. There are four presumed extant CNDDB occurrences of this species within five miles. However, four of the five occurrences are historical, and the fifth occurrence is over three miles from the Study Area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Atriplex pacifica south coast saltscale	None/None G4/S2 1B.2	Annual herb. Coastal bluff scrub, coastal dunes, coastal scrub, playas. Alkali soils. Elevations: 0-460ft. (0-140m.) Blooms Mar-Oct.	Not Expected	While there is coastal scrub present on site, the Study Area lacks suitable alkali soils to support this species. There are three presumed extant species over three miles from the Study Area (two of which are historical occurrences).
Atriplex parishii Parish's brittlescale	None/None G1G2/S1 1B.1	Annual herb. Chenopod scrub, playas, vernal pools. Alkaline. Elevations: 80-6235ft. (25-1900m.) Blooms Jun-Oct.	Not Expected	The Study Area lacks suitable alkaline soils, and there are no vernal pools present on site.
Atriplex serenana var. *davidsonii* Davidson's saltscale	None/None G5T1/S1 1B.2	Annual herb. Coastal bluff scrub, coastal scrub. Alkaline. Elevations: 35-655ft. (10-200m.) Blooms Apr-Oct.	Not Expected	While the Study Area contains coastal scrub, the site lacks suitable alkaline soils to support this species. There is one presumed extant CNDDB occurrence approximately five miles from the Study Area.
Brodiaea filifolia thread-leaved brodiaea	FT/SCE G2/S2 1B.1	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools. Clay (often). Elevations: 80-3675ft. (25-1120m.) Blooms Mar-Jun.	Low	Chaparral and coastal scrub habitat is present on site, along with dispersed grassland habitats. However, the site lacks vernal pools and other wetland habitats. There is one CNDDB occurrences approximately three miles from the Study Area.
Calochortus weedii var. *intermedius* intermediate mariposa-lily	None/None G3G4T2/S3 1B.2	Perennial bulbiferous herb. Chaparral, coastal scrub, valley and foothill grassland. Rocky. Elevations: 345-2805ft. (105-855m.) Blooms May-Jul.	Moderate	The Study Area contains chaparral and coastal scrub habitats. There are 15 presumed extant CNDDB occurrences of this species within five miles of the site.
Centromadia parryi ssp. *australis* southern tarplant	None/None G3T2/S2 1B.1	Annual herb. Marshes and swamps, valley and foothill grassland, vernal pools. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass (*Distichlis spicata*). Sometimes on vernal pool margins. Elevations: 0-1575ft. (0-480m.) Blooms May-Nov.	Not Expected	Suitable wetland habitat is not present on or adjacent to the Study Area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Chaenactis glabriuscula var. *orcuttiana* Orcutt's pincushion	None/None G5T1T2/S1 1B.1	Annual herb. Coastal bluff scrub, coastal dunes. Sandy sites. Elevations: 0-330ft. (0-100m.) Blooms Jan-Aug.	Not Expected	The Study Area does not contain coastal dunes or sandy sites. There are two possibly extirpated historical occurrences within five miles and one presumed extant occurrence from 2010 that is over three miles from the Study Area.
Chloropyron maritimum ssp. *maritimum* salt marsh bird's-beak	FE/SCE G4?T1/S1 1B.2	Annual herb (hemi-parasitic). Coastal dunes, marshes and swamps. Limited to the higher zones of salt marsh habitat. Elevations: 0-100ft. (0-30m.) Blooms May-Oct(Nov).	Not Expected	The Study Area lacks suitable marsh and swamp habitat to support this species.
Cistanthe maritima seaside cistanthe	None/None G3G4/S3 4.2	Annual herb. Coastal bluff scrub, coastal scrub, valley and foothill grassland. Sandy. Elevations: 15-985ft. (5-300m.) Blooms (Feb)Mar-Jun(Aug).	Low	The Study Area contains coastal scrub and dispersed grassland habitats. However, there are no CNDDB occurrences within five miles of the site.
Comarostaphylis diversifolia ssp. *diversifolia* summer holly	None/None G3T2/S2 1B.2	Perennial evergreen shrub. Chaparral, cismontane woodland. Often in mixed chaparral in California, sometimes post-burn. Elevations: 100-2590ft. (30-790m.) Blooms Apr-Jun.	Low	The Study Area contains chaparral habitats to support this species. There are six presumed extant CNDDB occurrences within five miles of the site. This species is identifiable regardless of its blooming period and was not observed during the field survey.
Dudleya blochmaniae ssp. *blochmaniae* Blochman's dudleya	None/None G3T2/S2 1B.1	Perennial herb. Chaparral, coastal bluff scrub, coastal scrub, valley and foothill grassland. Open, rocky slopes; often in shallow clays over serpentine or in rocky areas with little soil. Elevations: 15-1475ft. (5-450m.) Blooms Apr-Jun.	Low	Chaparral and coastal scrub are present within the Study Area, although the site lacks serpentine soils. There is one presumed extant CNDDB occurrence within five miles of the Study Area.
Dudleya multicaulis many-stemmed dudleya	None/None G2/S2 1B.2	Perennial herb. Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. Elevations: 50-2590ft. (15-790m.) Blooms Apr-Jul.	Low	While the Study Area contains chaparral, coastal scrub, and grasses, the site lacks suitable soils. This species was not observed on site during the field survey.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Dudleya stolonifera Laguna Beach dudleya	FT/SCT G1/S1 1B.1	Perennial stoloniferous herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. In thin soil on north-facing sandstone cliffs. Elevations: 35-855ft. (10-260m.) Blooms May-Jul.	Not Expected	While the Study Area contains chaparral and coastal scrub, the site does not contain north-facing sandstone cliffs. This species was not observed in the Study Area during the field survey.
Eryngium aristulatum var. *parishii* San Diego button-celery	FE/SCE G5T1/S1 1B.1	Annual/perennial herb. Coastal scrub, valley and foothill grassland, vernal pools. San Diego mesa hardpan and claypan vernal pools and southern interior basalt flow vernal pools; usually surrounded by scrub. Elevations: 65-2035ft. (20-620m.) Blooms Apr-Jun.	Not Expected	While the Study Area contains coastal scrub, the site lacks suitable wetland habitat to support this species.
Euphorbia misera cliff spurge	None/None G5/S2 2B.2	Perennial shrub. Coastal bluff scrub, coastal scrub, Mojavean desert scrub. Rocky sites. Elevations: 35-1640ft. (10-500m.) Blooms (Oct)Dec-Aug.	Present	This species is present within the Study Area along and near the dirt access road leading up to the reservoir site. There are four areas containing this species. One area had 15 individuals, another had 16, the third had 20, and the fourth had 25.
Harpagonella palmeri Palmer's grapplinghook	None/None G4/S3 4.2	Annual herb. Chaparral, coastal scrub, valley and foothill grassland. Clay soils; open grassy areas within shrubland. Elevations: 65-3135ft. (20-955m.) Blooms Mar-May.	Low	Marginally suitable habitat is present within California buckwheat scrub and fountain grass swards. There is one presumed extant CNDDB occurrence approximately four miles away.
Horkelia cuneata var. *puberula* mesa horkelia	None/None G4T1/S1 1B.1	Perennial herb. Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. Elevations: 230-2660ft. (70-810m.) Blooms Feb-Jul(Sep).	Low	Chaparral and coastal scrub habitats are present. Soils within the Study Area contain gravelly clay sandy loam which could support this species. There is one presumed extant CNDDB occurrence of this species approximately four miles from the Study Area. This species was not observed during the field survey; however, the field survey took place outside this species' blooming period.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Isocoma menziesii var. *decumbens* decumbent goldenbush	None/None G3G5T2T3/S2 1B.2	Perennial shrub. Chaparral, coastal scrub. Sandy soils; often in disturbed sites. Elevations: 35-445ft. (10-135m.) Blooms Apr-Nov.	Moderate	Chaparral and coastal scrub are present. Soils within the Study Area contain gravelly clay sandy loam, which could support this species. There is one presumed extant CNDDB occurrence of this species approximately one mile from the Study Area. This species was not observed during the field survey; however, the field survey took place outside this species' blooming period.
Lepidium virginicum var. *robinsonii* Robinson's pepper-grass	None/None G5T3/S3 4.3	Annual herb. Chaparral, coastal scrub. Dry soils, shrubland. Elevations: 5-2905ft. (1-885m.) Blooms Jan-Jul.	Moderate	Chaparral and coastal scrub are present. Soils within the Study Area contain gravelly clay sandy loam which could support this species. There are no CNDDB occurrences of this species within five miles of the Study Area. This species was not observed during the field survey; however, the field survey took place outside this species' blooming period.
Lycium californicum California box-thorn	None/None G4/S4 4.2	Perennial shrub. Coastal bluff scrub, coastal scrub. Elevations: 15-490ft. (5-150m.) Blooms Mar-Aug(Dec).	Low	Chaparral and coastal scrub are present on site. However, there are no CNDDB occurrences of this species within five miles of the Study Area.
Malacothrix saxatilis var. *saxatilis* cliff malacothrix	None/None G5T4/S4 4.2	Perennial rhizomatous herb. Coastal bluff scrub. Coastal scrub. Elevations: 10-655ft. (3-200m.) Blooms Mar-Sep.	Low	Chaparral and coastal scrub are present on site. However, there are no CNDDB occurrences of this species within five miles of the Study Area.
Nama stenocarpa mud nama	None/None G4G5/S1S2 2B.2	Annual/perennial herb. Marshes and swamps. Lake shores, riverbanks, intermittently wet areas. Elevations: 15-1640ft. (5-500m.) Blooms Jan-Jul.	Not Expected	The Study Area lacks suitable wetland habitats to support this species.
Nasturtium gambelii Gambel's water cress	FE/SCT G1/S1 1B.1	Perennial rhizomatous herb. Marshes and swamps. Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. Elevations: 15-1085ft. (5-330m.) Blooms Apr-Oct.	Not Expected	The Study Area lacks suitable wetland habitats to support this species.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Navarretia prostrata prostrate vernal pool navarretia	None/None G2/S2 1B.2	Annual herb. Coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites. Elevations: 10-3970ft. (3-1210m.) Blooms Apr-Jul.	Not Expected	While coastal scrub is present on site, the Study Area lacks suitable vernal pools and alkaline soils to support this species.
Nemacaulis denudata var. *denudata* coast woolly-heads	None/None G3G4T2/S2 1B.2	Annual herb. Coastal dunes. Elevations: 0-330ft. (0-100m.) Blooms Apr-Sep.	Not Expected	The Study Area lacks suitable coastal dune habitat to support this species.
Nolina cismontana chaparral nolina	None/None G3/S3 1B.2	Perennial evergreen shrub. Chaparral, coastal scrub. Primarily on sandstone and shale substrates; also known from gabbro. Elevations: 460-4185ft. (140-1275m.) Blooms (Mar)May-Jul.	Low	The Study Area contains chaparral and coastal scrub and gravelly loamy sandstone substrates. However, there are no CNDDB occurrences of this species within five miles of the site.
Orcuttia californica California Orcutt grass	FE/SCE G1/S1 1B.1	Annual herb. Vernal pools. Elevations: 50-2165ft. (15-660m.) Blooms Apr-Aug.	Not Expected	The Study Area lacks vernal pools required to support this species. There are no CNDDB occurrences of this species within five miles of the site.
Pentachaeta aurea ssp. *allenii* Allen's pentachaeta	None/None G4T1/S1 1B.1	Annual herb. Coastal scrub, valley and foothill grassland. Openings in scrub or grassland. Elevations: 245-1705ft. (75-520m.) Blooms Mar-Jun.	Low	The Study Area contains coastal scrub and dispersed grassland habitats. There are two presumed extant CNDDB occurrences of this species within five miles of the site.
Phacelia ramosissima var. *austrolitoralis* south coast branching phacelia	None/None G5?T3Q/S3 3.2	Perennial herb. Chaparral, coastal dunes, coastal scrub, marshes and swamps. Sandy, sometimes rocky sites. Elevations: 15-985ft. (5-300m.) Blooms Mar-Aug.	Not Expected	While the Study Area contains chaparral and coastal scrub, the site lacks suitable wetland habitats and sandy sites to support this species. Additionally, there are no CNDDB occurrences of this species within five miles of the site.
Pseudognaphalium leucocephalum white rabbit-tobacco	None/None G4/S2 2B.2	Perennial herb. Chaparral, cismontane woodland, coastal scrub, riparian woodland. Sandy, gravelly sites. Elevations: 0-6890ft. (0-2100m.) Blooms (Jul)Aug-Nov(Dec).	Low	While the Study Area contains chaparral, coastal scrub, and gravelly sites, the site lacks riparian woodlands. There is one presumed extant CNDDB occurrence of this species approximately four miles from the site.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Quercus dumosa Nuttall's scrub oak	None/None G3/S3 1B.1	Perennial evergreen shrub. Chaparral, closed-cone coniferous forest, coastal scrub. Generally on sandy soils near the coast; sometimes on clay loam. Elevations: 50-1310ft. (15-400m.) Blooms Feb-Apr(May-Aug).	Low	The Study Area contains coastal scrub and gravelly clay loam soils that could support this species. There are four presumed extant CNDDB occurrences within five miles of the site. However, this species is identifiable regardless of its blooming period and was not observed during the field survey.
Senecio aphanactis chaparral ragwort	None/None G3/S2 2B.2	Annual herb. Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. Elevations: 50-2625ft. (15-800m.) Blooms Jan-Apr(May).	Not Expected	While the Study Area contains coastal scrub, no alkaline flats are present. There is one presumed extant CNDDB occurrence of this species approximately three miles from the site.
Sidalcea neomexicana salt spring checkerbloom	None/None G4/S2 2B.2	Perennial herb. Chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, playas. Alkali springs and marshes. Elevations: 50-5020ft. (15-1530m.) Blooms Mar-Jun.	Not Expected	While chaparral and coastal scrub are present on site, the Study Area lacks suitable montane forest, playas, and wetland habitats.
Suaeda esteroa estuary seablite	None/None G3/S2 1B.2	Perennial herb. Marshes and swamps. Coastal salt marshes in clay, silt, and sand substrates. Elevations: 0-15ft. (0-5m.) Blooms (Jan-May)Jul-Oct.	Not Expected	The Study Area lacks wetland habitat to support this species. Additionally, the Study Area is outside the known elevation range for this species.
Suaeda taxifolia woolly seablite	None/None G4/S4 4.2	Perennial evergreen shrub. Coastal bluff scrub, coastal dunes, marshes and swamps. Margins of salt marshes. Elevations: 0-165ft. (0-50m.) Blooms Jan-Dec.	Not Expected	The Study Area lacks coastal dune and wetland habitats to support this species. There are no CNDDB occurrences within five miles of the site. This species is identifiable regardless of its blooming period and was not observed during the field survey.
Symphyotrichum defoliatum San Bernardino aster	None/None G2/S2 1B.2	Perennial rhizomatous herb. Cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, meadows and seeps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. Elevations: 5-6695ft. (2-2040m.) Blooms Jul-Nov.	Not Expected	The Study Area lacks suitable wetland habitats to support this species. There are no CNDDB occurrences within five miles of the site

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Verbesina dissita big-leaved crownbeard	FT/SCT G1G2/S1 1B.1	Perennial herb. Chaparral, coastal scrub. Steep, rocky, primarily north-facing slopes within 1.5 miles of the ocean, in gravelly soils. Elevations: 150-675ft. (45-205m.) Blooms (Mar)Apr-Jul.	Moderate	Chaparral and coastal scrub habitats are present on site, and the Study Area contains gravelly soils that could support this species. There is one presumed extant CNDDB occurrence of this species approximately one mile from the site.
Invertebrates				
Bombus crotchii Crotch bumble bee	None/SCE G3G4/S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Low	The Study Area contains suitable California buckwheat (*Eriogonum fasciculatum*) habitat, and there are three presumed extant CNDDB occurrences within five miles of the Study Area. However, the species generally prefers sandy alluvial areas. Additionally, in December 2020, the courts provided a final ruling granting a writ of mandate setting aside the June 2019 candidate petition listing for the Crotch bumble bee, and the species is no longer afforded protection under CESA.
Danaus plexippus pop. 1 monarch - California overwintering population	FC/None G4T2T3/S2S3	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves, including eucalyptus (*Eucalyptus* spp.), Monterey pine (*Pinus radiata*), and cypress(*Cupressus*), with nectar and water sources nearby.	Not Expected	The Study Area does not contain suitable roosting habitat for this species.
Fish				
Eucyclogobius newberryi tidewater goby	FE/None G3/S3	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 fairly still but not stagnant water and high oxygen levels.	Not Expected	No permanent streams, ponds, or similar aquatic habitat is present within the Study Area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Gila orcuttii arroyo chub	None/None G2/S2 SSC	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave & San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	Not Expected	No permanent streams or similar aquatic habitat is present within the Study Area.
Oncorhynchus mykiss irideus pop. 10 steelhead - southern California DPS	FE/None G5T1Q/S1	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	Not Expected	No permanent streams or similar aquatic habitat is present within the Study Area.
Amphibians				
Spea hammondii western spadefoot	None/None G3/S3 SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Not Expected	The Study Area does not contain vernal pools that are required for breeding and egg-laying. This species is not expected to occur in the Study Area.
Reptiles				
Anniella spp. California legless lizard	None/None G3G4/S3S4SSC	Contra Costa County south to San Diego, within a variety of open habitats. This element represents California records of Anniella not yet assigned to new species within the Anniella pulchra complex. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Not Expected	The Study Area lacks suitable moist soils to support this species. There are two presumed extant CNDDB occurrences of this species within five miles of the project site. However, both of these occurrences are historic, occurring in 1940 and 1917.
Arizona elegans occidentalis California glossy snake	None/None G5T2/S2 SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California.	Low	The Study Area contains marginally suitable scrub and grassland habitat. There are two presumed extant CNDDB occurrences of this species within five miles of the project site. However, both occurrences are from 1946.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
		Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.		
Aspidoscelis hyperythra orange-throated whiptail	None/None G5/S2S3 WL	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	Low	The Study Area contains coastal scrub and chaparral habitats. However, the site lacks washes and other sandy areas. There are three presumed extant CNDDB occurrences within five miles of the project site.
Aspidoscelis tigris stejnegeri coastal whiptail	None/None G5T5/S3 SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland & riparian areas. Ground may be firm soil, sandy, or rocky.	Low	The Study Area contains some areas with sparse vegetation. However, the site lacks riparian habitats. There is one presumed extant CNDDB occurrence within five miles of the site.
Emys marmorata western pond turtle	None/None G3G4/S3 SSC	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 km from water for egg-laying.	Not Expected	The Study Area does not contain aquatic features to support this species.
Phrynosoma blainvillii coast horned lizard	None/None G3G4/S3S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Low	The Study Area contains marginally suitable open and bushy habitat to support this species. However, the site is lacking sandy washes. There are four presumed extant CNDDB occurrences within five miles of the site (although one of these occurrences is from 1939).
Birds				
Accipiter cooperii Cooper's hawk	None/None G5/S4 WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks (*Quercus* spp.).	Low	The Study Area contains minimal suitable habitat to support foraging for this species. The Study Area lacks riparian trees to support nesting. Nesting may occur in areas adjacent to the Study Area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Agelaius tricolor tricolored blackbird	None/ST G1G2/S1S2 SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	Not Expected	No suitable aquatic or upland habitats occur within the Study Area.
Aimophila ruficeps canescens southern California rufous-crowned sparrow	None/None G5T3/S3 WL	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Moderate	While the Study Area contains chaparral habitats, there is minimal coastal sage scrub habitat. The Study Area is located on a relatively steep hillside. Additionally, there are eight presumed extant CNDDB occurrences within five miles of the Study Area.
Campylorhynchus brunneicapillus sandiegensis coastal cactus wren	None/None G5T3Q/S3 SSC	Southern California coastal sage scrub. Wrens require tall opuntia cactus for nesting and roosting.	Moderate	The Study Area contains marginal opuntia cactus nesting and roosting habitat dispersed within the chaparral and buckwheat stands. There are seven presumed extant CNDDB occurrences within five miles of the Study Area.
Elanus leucurus white-tailed kite	None/None G5/S3S4 FP	Rolling foothills and valley margins with scattered oaks & 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.	Not Expected	The Study Area does not contain river bottomlands or marshes. Additionally, there are no suitable open grasslands or meadows within the Study Area for foraging.
Icteria virens yellow-breasted chat	None/None G5/S3 SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow (*Salix* spp.), blackberry (*Rubus* spp.), and wild grape (*Vitis* spp.); forages and nests within 10 ft of ground.	Not Expected	The Study Area does not contain suitable riparian habitat for nesting and foraging. There is one presumed extant CNDDB occurrence within five miles of the Study Area.
Polioptila californica coastal California gnatcatcher	FT/None G4G5T2Q/S2 SSC	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and	Low	Marginal California sagebrush (*Artemisia californica*) and California buckwheat stands are present in the Study Area. There are 37 presumed extant CNDDB occurrences of this species within

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
		slopes. Not all areas classified as coastal sage scrub are occupied.		five miles of the project site. However, protocol-level surveys to detect species presence were negative, indicated the species is absent from the Study Area.
Setophaga petechia yellow warbler	None/None G5/S3S4 SSC	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 (*Populus* spp.), sycamores (*Platanus* spp.), ash (*Fraxinus* spp.), and alders (*Alnus* spp.).	Not Expected	The Study Area does not contain suitable riparian habitat to support this species.
Vireo bellii pusillus least Bell's vireo	FE/SE G5T2/S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite (*Prosopis* spp.).	Not Expected	The Study Area does not contain suitable riparian nesting habitat to support this species.
Mammals				
Chaetodipus californicus femoralis Dulzura pocket mouse	None/None G5T3/S3 SSC	Found in a variety of habitats including coastal scrub, chaparral, and grassland in San Diego County, Baja California, and Mexico. Attracted to grass-chaparral edges.	Low	The Study Area contains coastal scrub and chaparral. There is one presumed extant historical CNDDB occurrence of this species within five miles of the site.
Eumops perotis californicus western mastiff bat	None/None G5T4/S3S4 SSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Low	The Study Area contains suitable coastal scrub and chaparral habitat. Use of the Study Area by this species would be for foraging only.
Neotoma lepida intermedia San Diego desert woodrat	None/None G5T3T4/S3S4 SSC	Occurs in scrub habitats of southern California from San Luis Obispo County to San Diego County.	Low	Suitable habitat for this species is within the Study Area and vicinity. There is one presumed extant CNDDB occurrence within five miles of the project site.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Perognathus longimembris pacificus Pacific pocket mouse	FE/None G5T1/S1 SSC	Inhabits the narrow coastal plains from the Mexican border north to El Segundo, Los Angeles County. Seems to prefer soils of fine alluvial sands near the ocean, but much remains to be learned.	Not Expected	The Study Area does not contain suitable sandy soils to support this species.
Sensitive Natural Communities				
Southern Coast Live Oak Riparian Forest	None/None G4/S4		Not Present	This vegetation community was not observed in the Study Area during the reconnaissance survey.
Southern Cottonwood Willow Riparian Forest	None/None G3/S3.2		Not Present	This vegetation community was not observed in the Study Area during the reconnaissance survey
Southern Sycamore Alder Riparian Woodland	None/None G4/S4		Not Present	This vegetation community was not observed in the Study Area during the reconnaissance survey.

Status: Federal/State

FE = Federal Endangered
FT = Federal Threatened
FC = Federal Species of Concern
PFT = Proposed Federal Threatened
FDL = Federal Delisted
SE = State Endangered
ST = State Threatened
SCE = State Candidate Endangered
SR = State Rare
SDL = State Delisted
SSC = CDFW Species of Special Concern
FP = CDFW Fully Protected
WL = CDFW Watch List

CRPR (CNPS California Rare Plant Rank)

1A = Presumed Extirpated in California, and either rare or extinct elsewhere
1B = Rare, Threatened, or Endangered in California and elsewhere
2A = Presumed Extirpated in California, but common elsewhere
2B = Rare, Threatened, or Endangered in California, but common elsewhere
3 = Need more information (a Review List)
4 = Plants of Limited Distribution (a Watch List)

CRPR Threat Code Extension

.1 = Seriously threatened in California (>80% of occurrences threatened / high degree and immediacy of threat)
.2 = Moderately threatened in California (20-80% of occurrences threatened / moderate degree of immediacy of threat)
.3 = Not very threatened in California (<20% of occurrences threatened / low degree of immediacy of threat or no current threats known)

Other Statuses

G1 or S1 Critically Imperiled Globally or Subnationally (state)
G2 or S2 Imperiled Globally or Subnationally (state)
G3 or S3 Vulnerable to extirpation or extinction Globally or Subnationally (state)
G4/5 or S4/5 Apparently secure, common and abundant
GH or SH Possibly Extirpated – missing; known from only historical occurrences but still some hope of rediscovery

Additional notations may be provided as follows

T – Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)
Q – Questionable taxonomy that may reduce conservation priority
? – Inexact numeric rank

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Attachment 6

Focused Rare Plant Survey Report

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

April 12, 2022 13338

Attn: Taryn Kjolsing, PE
South Coast County Water
31592 West Street
South Laguna, California 92651-6907

Subject: **Focused Rare Plant Survey Report for Parcel ID 658-191-03, City of Laguna Beach, Orange County, California**

Dear Ms. Kjolsing:

Dudek conducted focused surveys for plants that are considered rare, listed, or special status (rare plant surveys) on Parcel ID 658-191-03 and surrounding buffer (project). Dudek botanist Erin Bergman conducted rare plant reference checks on March 20, March 23, March 25, March 29, March 31, April 1, and April 3, 2022, to determine the blooming status of targeted species, and conducted rare plant surveys on April 4, 2022. The project site is approximately 1.17 acres with an additional buffer (approximately 500 feet around the tower site and Alta Loma Drive access road) totaling 40.9 acres (Figure 1, Project Location) (survey area) within the City of Laguna Beach, Orange County, California. This letter report provides the methods and results of the rare plant survey.

1 Introduction

1.1 Project Location

The project site consists of one parcel within the City of Laguna Beach, encompassed mostly by open space. The project site is surrounded by land owned by the County of Orange north, east, and south of the water tower parcel. The access road to the site consists of open space. West of the open space is developed land. The project site is accessible off Ceanothus Drive in Laguna Beach. Alta Loma Drive is part of the survey area that allows for access to the water tower parcel. Central coordinates for the project parcel are 33.508733 North and -117.745175 West. The project site where the water tower resides has flat topography. However, surrounding areas consist of steep slopes, especially off Alta Loma Drive and farther east of the water tower. The project site is at an elevation of approximately 511 feet above mean sea level. Site photos are included in Attachment A, Site Photos.

2 Rare Plants

2.1 Reference Population Checks

Plant species bloom at slightly different times each year depending on temperature, rainfall patterns, elevation, and other environmental factors. Reference population checks involve locating populations of target species during

a timeframe when they are known to be blooming or exhibiting other phenological characteristics that allow for species identification. Observations of reference populations during peak phenology periods provide assurance that these species would be identifiable if they were present in a project area.

2.2 Spring Rare Plants

Ten rare species had moderate or high potential to occur in the vicinity of the project site during the spring season (March–May): threadleaf brodiaea (*Brodiaea filifolia*), Catalina mariposa lily (*Calochortus* catalinae), intermediate mariposa lily (*Calochortus weedii* var. *intermedius*), wart stemmed ceanothus (*Ceanothus verrucosus*), seaside calandrinia (*Cistanthe maritima*), California box thorn (*Lycium californicum*), cliff malacothrix (*Malacothrix saxatilis* var. *saxatilis*), cliff spurge (*Euphorbia misera*), golden chaetopappa (*Pentachaeta aurea* ssp. *aurea*), and big-leaved crownbeard (*Verbesina dissita*). These species have been documented within 1–3 miles of the project site. Additionally, these species occur within similar ecological zones to those within or near the project site.

Threadleaf brodiaea is a member of the Themidaceae family and blooms March through June in grasslands, freshwater wetlands, wetland/riparian, vernal pools, foothill woodland, and coastal scrub habitats. Threadleaf brodiaea is a perennial herb (bulb) and occurs at elevations between 130 feet and 3,640 feet above mean sea level. Threadleaf brodiaea uses clay soils (Calflora 2022; CNPS 2022).

Catalina mariposa lily is a member of the Liliaceae family and blooms March through June in coastal sage scrub, foothill woodland, chaparral, and valley grassland. Catalina mariposa lily is a perennial herb (bulb) and occurs at elevations of 65 to 2,395 feet above mean sea level (Calflora 2022; CNPS 2022).

Intermediate mariposa lily is a member of the Liliaceae family and blooms May through July in coastal sage scrub, valley grassland, and chaparral. Intermediate mariposa lily is a perennial herb (bulb) and occurs at elevations of 360 to 2,265 feet above mean sea level (Calflora 2022; CNPS 2022).

Wart-stemmed ceanothus is a member of the Rhamnaceae family and blooms January through April in chaparral communities. Wart-stemmed ceanothus is a shrub that occurs at elevations ranging from 0 to 1180 feet above mean sea level (Calflora 2022; CNPS 2022).

Seaside calandrinia is a member of the Montiaceae family and blooms March through June in coastal sage scrub and valley grassland habitat. Seaside calandrinia is a dicot annual herb that occurs at elevations ranging from 35 to 625 feet above mean sea level (Calflora 2022; CNPS 2022).

California box-thorn is a member of the Solonaceae family and blooms March through August within coastal sage scrub communities. California box-thorn is a shrub that occurs at elevations ranging from 0 to 925 feet above mean sea level (Calflora 2022; CNPS 2022).

Cliff malacothrix is a member of the Asteraceae family and blooms March through September in coastal sage scrub, coastal habitat, mixed evergreen forest, foothill woodland, and chaparral. Cliff malacotherix is a perennial herb and occurs at elevations of 0 to 3,180 feet above mean sea level (Calflora 2022; CNPS 2022).

Cliff spurge is a member of the Euphorbiacee family and blooms January through August within coastal sage scrub communities. Cliff spurge is a shrub that occurs at elevations ranging from 0 to 295 feet above mean sea level (Calflora 2022; CNPS 2022).

Golden chaetopappa is a member of the Asteraceae family and blooms March though June in valley grassland and coastal sage scrub. Golden chaetopappa is an annual herb and occurs at elevations of 245 to 5,940 feet above mean sea level (Calflora 2022; CNPS 2022).

Big-leaved crownbeard is a member of the Asteraceae family and blooms April through July in coastal sage scrub and chaparral. Big-leaved crownbeard is a perennial herb and occurs at elevations of 165 to 785 feet above mean sea level (Calflora 2022; CNPS 2022).

2.3 Late Season or Summer Rare Plants

Two species had moderate to high potential to occur or bloom within the vicinity of the project site during the summer season (June–August): San Diego tarplant (*Deinandra paniculata*) and summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*) (blooming period for this large shrub). Additionally, these species occur within similar ecological zones to those within or near the project site.

San Diego tarplant is a member of the Asteraceae family and blooms April through November in valley grassland. San Diego tarplant is an annual herb and occurs at elevations of 100 to 2,625 feet above mean sea level (Calflora 2022; CNPS 2022).

Summer holly is a member of the Ericaceae family and can be easily observed year round. However, summer holly blooms May through August depending on weather conditions. Summer holly is a large shrub that occurs at elevations of 80 to 2,165 feet above mean sea level (Calflora 2022; CNPS 2022).

3 Methods

3.1 Preliminary Analysis – Potential to Occur

Dudek botanist Erin Bergman conducted a review of site characteristics (including biogeography, elevation, and soils) and a search of plant data for the area. Records from the California Natural Diversity Database and the California Native Plant Society's Inventory of Rare and Endangered Plants of California were also reviewed to compile an updated list of species with potential to occur on site, referred to as "target species." This list includes special-status plants (listed species and California Rare Plant Rank 1–4 species) with potential to occur that have been recorded within the on-site U.S. Geological Survey quadrangle. Due to the site being less than 40 acres, a 1-quadrangle review was performed vs. the typical 9-quadrangle review. The results of this preliminary analysis are provided in Attachment B, Plant Potential to Occur Table. Plants with moderate to high potential to occur were targeted for reference checks prior to surveys.

3.2 Reference Check Methods

Dudek botanist Erin Bergman conducted reference checks on March 20, March 23, March 25, March 29, March 31, April 1, and April 3, 2022, before conducting rare plant surveys. These reference checks were based on collections documented within the Calflora database. The Calflora database offers GPS point locations for plant species across California (Calflora 2022). Ms. Bergman collected coordinates from the database to ensure phenology would be similar. Ms. Bergman targeted locations for both spring and summer rare plants, and observed species with low, moderate, or high potential in full bloom before going to the site to perform the field surveys. Ms. Bergman observed species vegetatively or in bloom. Selected reference check site photos are saved to Instagram account socalrare_plants (Instagram 2022).

3.3 Focused Special-Status Plant Survey

Ms. Bergman conducted a focused special-status rare plant survey within the project site on April 4, 2022. Conditions were clear, temperatures were between 60°F and 75°F, winds were 0 to 4 miles per hour, and skies consisted of 0%–60% cloud cover.

Surveys for special-status species were conducted within the project site by walking transects. Ms. Bergman used both the Collector mobile application and Dudek forms mobile application to record data and map any rare plant species. Transects were included in the Collector mobile application as guidance. These transects were spread at a distance of 10 feet to cover every section of the project site, including areas with high-density vegetation. Ms. Bergman followed these 10-foot transect lines across the project site. Areas that were too steep to safely walk were studied with binoculars. Focused special-status plant surveys conformed to the California Native Plant Society's Botanical Survey Guidelines (CNPS 2002), Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities (CDFG 2009), and U.S. Fish and Wildlife Service's General Rare Plant Survey Guidelines (Cypher 2002).

All plant species encountered during the field surveys were identified to subspecies or variety, if applicable, to determine sensitivity status. Moreover, all plant species encountered in the field were recorded. Latin and common names for plant species with a California Rare Plant Rank follow the California Native Plant Society's Online Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2022). For plant species without a California Rare Plant Rank, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson 2022), and common names follow the California Natural Community list (CDFW 2022) or the U.S. Department of Agriculture's Natural Resources Conservation Service Plants Database (USDA 2022).

3.4 Survey Limitations

The focused rare plant surveys were conducted on April 4, 2022. Rare plant surveys on the project site were performed a few days to a week after reference checks, which is considered reasonable timing for blooming rare plant species. Reference checks were performed for numerous species that were observed either vegetatively or in bloom. One summer annual (paniculate tarplant) has potential to be found within the buffer but does not bloom usually until July. However, within the area of the water tower and on the road, the potential for this species is low due to the level of consistent disturbance.

The survey was conducted during daylight hours under weather conditions that did not preclude observation of plant species (e.g., surveys were not conducted during heavy fog or rain).

4 Results

4.1 Reference Check Survey Results

Rainfall was enough that threadleaf brodiaea, wart stemmed ceanothus, seaside calandrina, cliff spurge, California box thorn, cliff malacothrix, big leaved crownbeard, golden chaetopappa, summer holly, and a variety of rare plants with low potential to occur were observed within less than 1 to 60 miles from the project site vegetatively or in bloom. Therefore, rare plant surveys documented both annual and perennial plants adequately.

4.2 Survey Results Plant Species Diversity

Ms. Bergman observed 53 species within the project site during spring season surveys. These plants are listed in Attachment C, Plant Compendium, of which 28 are native (53%) and 25 are non-native (47%). This low native plant diversity reflects the small size of the site.

4.3 Rare Plant Results

Cliff spurge was observed within project buffer along the edges of Alta Loma Drive and within some of the steeper edges past Alta Loma Drive. Cliff spurge is a California Native Plant Society 2B.2 rare plant. See Figure 2, Rare Plant Survey, for rare plant results.

5 Discussion

The focused rare plant survey found one rare plant species during the spring surveys. Reference checks for plants with moderate to high potential to occur were observed before surveys were conducted in relatively high densities either vegetatively or in bloom. Therefore, any rare plants with potential to occur would have been observed during rare plant surveys.

If you have any questions regarding this letter report, please feel free to contact me at ebergman@dudek.com.

Sincerely,

Erin Bergman
Botanist

Att.: *Figures 1 and 2*
Attachment A, Site Photos
Attachment B, Rare Plant Potential to Occur Table (PTO Table)
Attachment C, Plant Compendium
cc: *South Coast Water District*
Chris Oesch, Dudek

6 References

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SOURCE: USGS National Map 2022; Bing Maps 2022

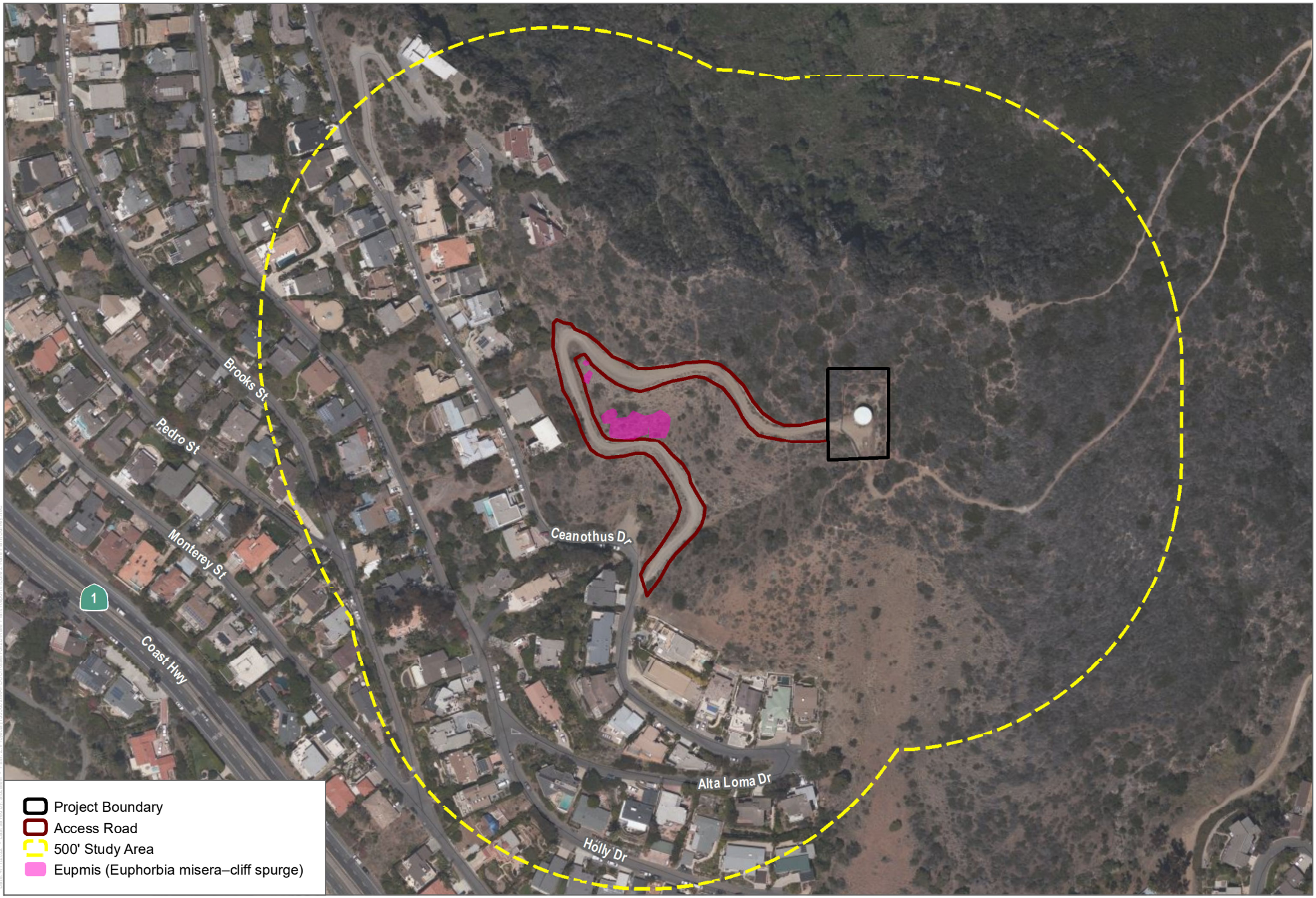
DUDEK

0 100 200 Feet

FIGURE 1

Project Location

Reservoir 2B Replacement Project



SOURCE: Bing Maps 2022

DUDEK

0 110 220 Feet

FIGURE 2

Rare Plant Survey

Reservoir 2B Replacement Project

Attachment A

Site Photos

Photo looking southwest on western side of the tower.

Photo looking west on northern side of the tower.

Photo looking west on south side of tower.

Photo looking southwest on eastern side of the tower

Attachment B

Rare Plant Potential to Occur Table (PTO Table)

Scientific name	Common name	Status	Habitat	Potential to occur
Aphanisma blitoides	aphanisma	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; sandy or gravelly/annual herb/Feb–June/3–1,000	Not expected to occur. Aphanisma was not observed during rare plant surveys. A reference check was performed for this species on March 20, 2022.
Atriplex coulteri	Coulter's saltbush	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; alkaline or clay/perennial herb/Mar–Oct/10–1,505	Not expected to occur. Coulter's saltbush was not observed during rare plant surveys. No habitat occurs on site for this species. Typically, some alkanie habitat is required. In addition, the majority of the site is too steep for this species.
Atriplex pacifica	South Coast saltscale	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/Mar–Oct/0–460	Not expected to occur. South coast salt scale was not observed during rare plant surveys.
Brodiaea filifolia	thread-leaved brodiaea	FT/SE/1B.1	Chaparral (openings), Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, Vernal pools; often clay/perennial bulbiferous herb/Mar–June/82–3,670	Not expected to occur. Thread-leaved brodiaea was not observed during rare plant surveys. A reference check was performed for thread-leaved brodiaea April 3, 2022 (Brodiaea leaves were observed). Therefore, if present leaves would have been observed onsite. In addition, thread-leaved brodiaea typically requires clay soils. The soils onsite do not consist of clay. Soper gravelly loan is present onsite.
Calochortus weedii var. *intermedius*	intermediate mariposa lily	None/None/1B.2	Chaparral, Coastal scrub, Valley and foothill grassland; rocky, calcareous/perennial bulbiferous herb/May–July/344–2,805	Not expected to occur. Intermediate mariposa lily was not observed during rare plant surveys. No observation of lily leaves or Brodiaea leaves were observed. Leaves of other lily species were observed during rare plant reference checks.
Calochortus catalinae	Catalina mariposa lily	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial bulbiferous herb/(Feb)Mar–June/49–2,295	Not expected to occur. Catalina mariposa lily was not observed during rare plant surveys. No observation of lily leaves or Brodiaea leaves were observed. Leaves of other lily species were observed during rare plant reference checks.

Scientific name	Common name	Status	Habitat	Potential to occur
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/None/1B.1	Coastal bluff scrub (sandy), Coastal dunes/annual herb/Jan–Aug/0–330	Not expected to occur. The site maybe outside of the species' known elevation range. A reference check was performed for Orcutt's pincushion on April 1, 2022 and it was in full bloom.
Cistanthe maritima	seaside cistanthe	None/None/4.2	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; sandy/annual herb/(Feb)Mar–June(Aug)/16–985	Not expected to occur. Seaside cistanthe was not observed during rare plant surveys. This species typically occurs edges of coastal bluffs or bluff edges which are present in the buffer. A reference check was performed on March 29, 2022.
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	None/None/1B.2	Chaparral, Cismontane woodland/perennial evergreen shrub/Apr–June/98–2,590	Not expected to occur. Summer holly was not observed during rare plant surveys. Summer holly can easily be observed year-round as it is a large shrub with unique leaves. A reference check was performed on March 20, 2022 to review plant leaf characteristics.
Deinandra paniculata	paniculate tarplant	None/None/4.2	Coastal scrub, Valley and foothill grassland, Vernal pools; usually vernally mesic, sometimes sandy/annual herb/(Mar)Apr–Nov(Dec)/82–3,080	Not expected to occur near the road or within the tower location. Paniculate tarplant doesn't bloom until July typically. However, it has little potential to occur within the access road or within the water tower location as those locations are utilized frequently. Although tarplants can tolerate disturbance, the level of disturbance for this plant is likely too high.
Dichondra occidentalis	western dichondra	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial rhizomatous herb/(Jan)Mar–July/164–1,640	Not expected to occur. Western Dichondra was not observed during rare plant surveys. Western dichondra can be observed for a large majority of the season.
Dudleya multicaulis	many-stemmed dudleya	None/None/1B.2	Chaparral, Coastal scrub, Valley and foothill grassland; often clay/perennial herb/Apr–July/49–2,590	Not expected to occur. Many stemmed Dudleya would have been observed during rare plant surveys. In addition, many stemmed Dudleya is typically found in clay soils which were not present onsite. The site consists of soper gravely loam.

Scientific name	Common name	Status	Habitat	Potential to occur
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None/None/1B.1	Coastal bluff scrub, Chaparral, Coastal scrub, Valley and foothill grassland; rocky, often clay or serpentinite/perennial herb/ Apr–June/16–1,475	Not expected to occur. Blochman's Dudleya would have been observed during rare plant surveys. In addition, Blochman's Dudleya is more likely to be found in serpentinite or clay soils which are not present on or near the site.
Dudleya stolonifera	Laguna Beach dudleya	FT/ST/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; rocky/perennial stoloniferous herb/May–July/33–855	Not expected to occur. Laguna beach Dudleya would have been observed during rare plant surveys.
Euphorbia misera	cliff spurge	None/None/2B.2	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub; rocky/perennial shrub/Dec–Aug(Oct)/33–1,640	Observed onsite.
Harpagonella palmeri	Palmer's grapplinghook	None/None/4.2	Chaparral, Coastal scrub, Valley and foothill grassland; Clay; open grassy areas within shrubland/annual herb/Mar–May/66–3,130	Low potential to occur. Palmer's grapplinghook was not observed during rare plant surveys. A reference check was performed on March 31, 2022 where it was found in bloom and fruit. Therefore, it would have been observed. In addition, this plant requires clay soils and the study site consists of Soper gravely loam.
Hordeum intercedens	vernal barley	None/None/3.2	Coastal dunes, Coastal scrub, Valley and foothill grassland (saline flats and depressions), Vernal pools/annual herb/Mar–June/16–3,280	Not expected to occur. Vernal barley typically occurs within ponds, depressions, vernal pools or saline flats. No habitat for this species occurs onsite.
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	None/None/4.2	Coastal dunes (mesic), Meadows and seeps (alkaline seeps), Marshes and swamps (coastal salt)/perennial rhizomatous herb/(Mar)May–June/ 10–2,950	Not expected to occur. No suitable vegetation or habitat is present.
Lycium californicum	California box-thorn	None/None/4.2	Coastal bluff scrub, Coastal scrub/perennial shrub/ (Dec)Mar,June,July,Aug/16–490	Not expected to occur. California box thorn was not observed during rare plant surveys. California box thorn is a large shrub that can be observed year-round. A reference check was preformed on March 29, 2022 to see if the shrub was blooming or fruiting. It was in fruit.

Scientific name	Common name	Status	Habitat	Potential to occur
Malacothrix saxatilis var. *saxatilis*	cliff malacothrix	None/None/4.2	Coastal bluff scrub, Coastal scrub/perennial rhizomatous herb/ Mar–Sep/10–655	Not expected to occur within the parcel or buffer as it was not observed during rare plant surveys. Cliff malacothrix was observed off site blooming.
Microseris douglasii ssp. *platycarpha*	small-flowered microseris	None/None/4.2	Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools; clay/annual herb/Mar–May/ 49–3,510	Not expected to occur. Small-flowered microseris typically needs areas that hold some moisture. The site is too developed in flat areas and the other sections are too steep for this species. In addition, clay soils are found where small flowered microseris occurs. The site doesn't consist of clay soils. The site consists of soper gravelly loam.
Pentachaeta aurea ssp. *allenii*	Allen's pentachaeta	None/None/1B.1	Coastal scrub (openings), Valley and foothill grassland/annual herb/ Mar–June/246–1,705	Not expected to occur. Allen's pentachaeta was not observed during rare plant surveys. A reference check was performed for the other variety of this plant and leaves were present.
Pentachaeta aurea ssp. *aurea*	golden-rayed pentachaeta	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian woodland, Valley and foothill grassland/annual herb/Mar–July/262–6,065	Not expected to occur. Golden rayed pentachaeta was not observed during rare plant surveys. A reference check was performed for this species on March 31, 2022 where it was observed vegetatively.
Phacelia ramosissima var. *austrolitoralis*	south coast branching phacelia	None/None/3.2	Chaparral, Coastal dunes, Coastal scrub, Marshes and swamps (coastal salt); sandy, sometimes rocky/perennial herb/Mar–Aug/16–985	Not expected to occur. South coast branching phacelia was not observed during rare plant surveys. This perennial can be observed for a much longer time frame compared to rare plants. Other Phacelia species were present and blooming.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland; sandy, gravelly/perennial herb/ (July)Aug–Nov(Dec)/0–6,885	Not expected to occur. White rabbit tobacco typically occurs in sandy gravel areas near riparian woodland which was not present within or near the site.
Quercus dumosa	Nuttall's scrub oak	None/None/1B.1	Closed-cone coniferous forest, Chaparral, Coastal scrub; sandy, clay loam/perennial evergreen shrub/ Feb–Apr(May–Aug)/49–1,310	Not expected to occur. Nuttall's scrub oak was not observed during rare plant surveys. Nuttall's scrub oak is a large shrub that can be easily observed year-round.

Scientific name	Common name	Status	Habitat	Potential to occur
Senecio aphanactis	chaparral ragwort	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub; sometimes alkaline/annual herb/Jan–Apr(May)/ 49–2,620	Not expected to occur. Chaparral ragwort is typically observed in extremely sandy soils like those on the beach. Chaparral ragwort was not observed during rare plant surveys.
Suaeda taxifolia	woolly seablite	None/None/4.2	Coastal bluff scrub, Coastal dunes, Marshes and swamps (margins of coastal salt)/perennial evergreen shrub/Jan–Dec/0–165	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. This plant grows in swamps and marshes which are not present onsite.
Verbesina dissita	big-leaved crownbeard	FT/ST/1B.1	Chaparral (maritime), Coastal scrub/perennial herb/ (Mar)Apr–July/148–675	Not expected to occur. Big leaved crownbeard was not observed during rare plant surveys. A refence check was performed on April 3, 2022. where the population was vegetative. Vegetative characteristics were studied.

Attachment C

Plant Compendium

Plant Species

Vascular Species

Eudicots

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

Malosma laurina—laurel sumac

Rhus integrifolia—lemonade berry

APIACEAE—CARROT FAMILY

* *Foeniculum vulgare*—fennel

ASTERACEAE—SUNFLOWER FAMILY

Artemisia californica—California sagebrush

* *Centaurea melitensis*—Maltese star-thistle

Encelia californica—California brittle bush

Eriophyllum confertiflorum var. *confertiflorum*—golden-yarrow

Hazardia squarrosa var. *grindelioides*—sawtooth bristleweed

Lactuca serriola—prickly lettuce*

* *Logfia gallica*—narrowleaf cottonrose

Porophyllum gracile—slender poreleaf

Pseudognaphalium beneolens—Wright's cudweed

BORAGINACEAE—BORAGE FAMILY

Cryptantha intermedia var. *intermedia*—Clearwater cryptantha

* *Echium candicans*—pride of Madeira

Phacelia cicutaria var. *hispida*—caterpillar phacelia

BRASSICACEAE—MUSTARD FAMILY

* *Hirschfeldia incana*—shortpod mustard

* *Sisymbrium altissimum*—tall tumblemustard

* *Sisymbrium officinale*—hedgemustard

* *Sisymbrium orientale*—Indian hedgemustard

CACTACEAE—CACTUS FAMILY

Cylindropuntia prolifera—coastal cholla

* *Opuntia ficus-indica*—Barbary fig

Opuntia littoralis—coast prickly pear

CHENOPODIACEAE—GOOSEFOOT FAMILY

* *Salsola tragus*—prickly Russian thistle

CLEOMACEAE—CLEOME FAMILY

Peritoma arborea var. *arborea*—bladderpod spiderflower

CONVOLVULACEAE—MORNING-GLORY FAMILY

Calystegia macrostegia ssp. *tenuifolia*—island false bindweed

CUCURBITACEAE—GOURD FAMILY

Marah macrocarpa—Cucamonga manroot

EUPHORBIACEAE—SPURGE FAMILY

Euphorbia misera—cliff spurge

* Euphorbia peplus—petty spurge

FABACEAE—LEGUME FAMILY

* *Acacia longifolia*—Sydney golden wattle

Acmispon glaber var. *glaber*—common deerweed

Acmispon glaber—deer weed

GERANIACEAE—GERANIUM FAMILY

* *Erodium cicutarium*—redstem stork's bill

LAMIACEAE—MINT FAMILY

Salvia mellifera—black sage

MALVACEAE—MALLOW FAMILY

Malacothamnus fasciculatus—bush mallow

* *Malva parviflora*—cheeseweed mallow

MYRTACEAE—MYRTLE FAMILY

* *Eucalyptus camaldulensis*—river redgum

NYCTAGINACEAE—FOUR O'CLOCK FAMILY

Mirabilis laevis var. *crassifolia*—California four o'clock

PHRYMACEAE—LOPSEED FAMILY

Diplacus puniceus—red bush monkeyflower

POLYGONACEAE—BUCKWHEAT FAMILY

Eriogonum fasciculatum var. *fasciculatum*—California buckwheat

RHAMNACEAE—BUCKTHORN FAMILY

Ceanothus megacarpus var. *megacarpus*—bigpod ceanothus

Rhamnus crocea—redberry buckthorn

ROSACEAE—ROSE FAMILY

Heteromeles arbutifolia—toyon

RUBIACEAE—MADDER FAMILY

Galium angustifolium—narrowleaf bedstraw

RUTACEAE—RUE FAMILY

Cneoridium dumosum—bush rue

SOLANACEAE—NIGHTSHADE FAMILY

* *Nicotiana glauca*—tree tobacco

Monocots

ASPARAGACEAE—ASPARAGUS FAMILY

* *Asparagus asparagoides*—African asparagus fern

POACEAE—GRASS FAMILY

* *Avena barbata*—slender oat
* *Brachypodium distachyon*—purple false brome
* *Bromus diandrus*—ripgut brome
* *Bromus rubens*—red brome
* *Cynodon dactylon*—Bermudagrass
* *Hordeum murinum*—mouse barley
* *Pennisetum setaceum*—fountain grass

* signifies introduced (non-native) species

Attachment 7

Aquatic Resources Delineation Report

Reservoir 2B Replacement Project

Aquatic Resources Delineation Report

prepared for

South Coast Water District
31592 West Street
Laguna Beach, California 92651
Contact: Taryn Kjolsing, Engineering Manager

prepared by

Rincon Consultants, Inc.
250 East 1st Street, Suite 1400
Los Angeles, California 90012

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RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

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Executive Summary

Rincon Consultants, Inc. conducted an aquatic resources delineation for the South Coast Water District Reservoir 2B Replacement Project (project), located in the city of Laguna Beach, Orange County, California. The project involves the demolition of the existing Reservoir 2B and construction of two new aboveground reservoirs.

The project site currently contains Reservoir 2B, which is an approximately 30-foot-diameter, 0.1-million-gallon aboveground water storage reservoir, and an unpaved access road. The reservoir is surrounded by a chain link fence. Access to Reservoir 2B is provided by a steep, winding, unpaved road off Ceanothus Drive, which is also used by members of the public as a connector trail between Ceanothus Drive and Toovet Trail. The Study Area for the aquatic resources delineation includes the project site plus a 100-foot buffer. The Study Area contains five vegetation communities and two land cover types.

Two unnamed features were identified during the field delineation. One feature is an unnamed ephemeral drainage that extends from a point near the existing Reservoir 2B in a southwest manner but does not extend into the reservoir site. This feature exhibited a bed and bank, along with drift deposits and vegetation matting. The second feature was located west of the unnamed ephemeral drainage. This feature was determined to be a non-jurisdictional swale due to a lack of bed and bank or an Ordinary High Water Mark as well as the lack of evidence of concentrated flow.

The unnamed ephemeral drainage contains approximately 0.68 acre and 243 linear feet of potential San Diego Regional Water Quality Control Board (RWQCB)-jurisdictional non-wetland waters of the State within the Study Area. Coterminous with RWQCB jurisdiction, the unnamed ephemeral feature was determined to be a potential CDFW-jurisdictional streambed. The feature was determined to not be jurisdictional under USACE. The unnamed drainage is also not considered a significant natural watercourse per the City of Laguna Beach's Local Coastal Program because it does not serve a distinct functional scenic or ecological purpose.

Introduction

Rincon Consultants, Inc. (Rincon) conducted an aquatic resources delineation (ARD) for the Reservoir 2B Replacement Project (project), located in the city of Laguna Beach, Orange County, California. The delineation was performed to determine the location and extent, with respect to the project, of waters and wetlands that are potentially subject to the jurisdiction of the United States Army Corps of Engineers (USACE), San Diego Regional Water Quality Control Board (RWQCB), California Department of Fish and Game (CDFW), and City of Laguna Beach (City).

Any proposed development in areas identified as jurisdictional waters and/or wetlands may be subject to the permit requirements of the USACE under Section 404 of the Clean Water Act (CWA), the RWQCB under Section 401 of the CWA and Porter-Cologne Water Quality Act, a Streambed Alteration Agreement from the CDFW pursuant to Section 1600 et. seq. of the California Fish and Game Code (CFGC), and the City's Local Coastal Program (LCP). Actual jurisdictional areas are confirmed by the state and federal authorities at the time that permits are requested.

Project Location

The project site is in the city of Laguna Beach in southwestern Orange County (Figure 1). The project site consists of Assessor's Parcel Numbers (APNs) 658-191-03, 658-191-04, and 056-051-29 and is situated within Township 8 South, Range 8 West, and Section 6, San Bernardino baseline and meridian. The site is within the U.S. Geological Survey *Laguna Niguel, California* 7.5-minute topographic quadrangle. The project site contains the South Coast Water District (SCWD) Reservoir 2B, which is an approximately 30-foot-diameter, 0.1-million-gallon (MG) aboveground water storage reservoir, and an unpaved access road (Figure 2 and Figure 3). The reservoir is surrounded by a chain link fence. Access to Reservoir 2B is provided by a steep, winding, unpaved road off Ceanothus Drive, which is also used by members of the public as a connector trail between Ceanothus Drive and Toovet Trail. The project site is situated in a hilly wildland-urban interface above a residential neighborhood and is surrounded by open space and residential land uses. Toovet Trail, which is part of Aliso and Wood Canyons Wilderness Park, starts immediately south of the fenced reservoir property at the terminus of the unpaved access road. Aliso Peak is located approximately 270 feet northeast of the project site.

Project Description

The project would include demolition of the existing Reservoir 2B and construction of two new reservoirs within the current fenced limits of the reservoir parcel. The existing Reservoir 2B is an aboveground, 0.1-MG steel welded reservoir that is approximately 30 feet in diameter and 19 feet in height and was installed in 1946. The existing reservoir would be replaced by two new 0.1-MG steel reservoirs, each approximately 33 feet in diameter and approximately 21 to 22 feet in height. Additionally, the project would include improvements to the unpaved access road leading to the reservoir site, which would consist of drainage improvements to mitigate stormwater runoff and asphalt paving of the road. The purpose of the proposed project is to provide additional capacity for SCWD's 490-pressure zone and contribute to providing an additional 0.1 MG of operational, fire, and emergency storage for this zone.

Figure 1 Regional Location

Imagery provided by Esri and its licensors © 2021.

Project Location

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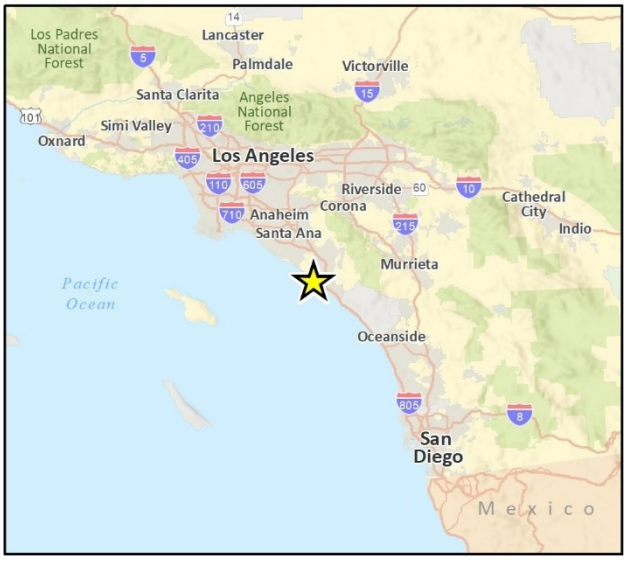

Fig 1 Regional Location

Figure 2 Project Location

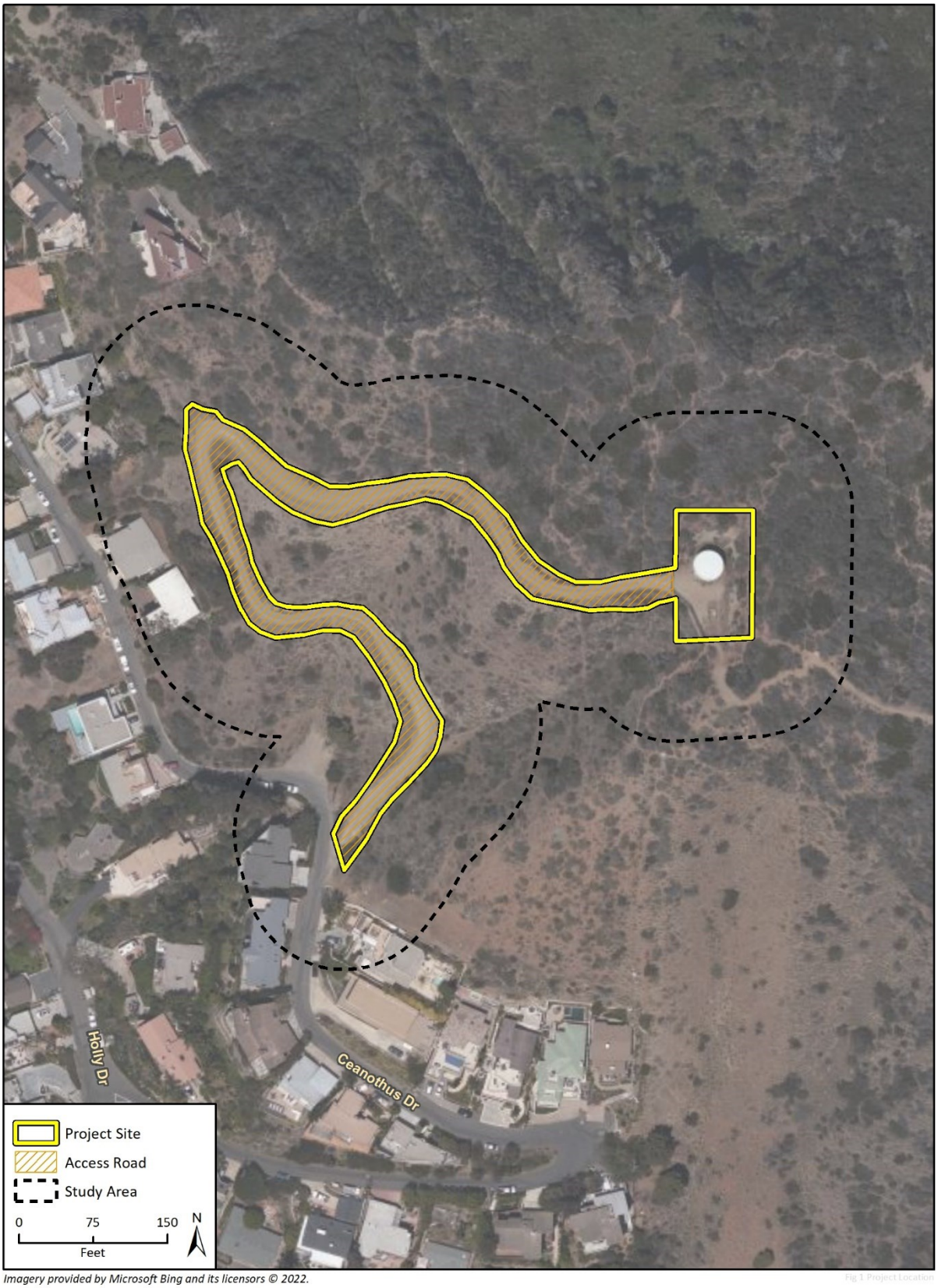

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Figure 3 Project Location (Topo)

Basemap provided by National Geographic Society, Esri, and their licensors © 2022. San Jaun Capistrano Quadrangle. T08.0S R08.0W S6,5.
The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

Environmental Setting

The project site is surrounded by open space atop a hill and is adjacent to a developed residential neighborhood. The elevational range surrounding the project site varies from approximately 285 feet above mean sea level in the southwestern portion at Ceanothus Drive to 550 feet above mean sea level at the existing Reservoir 2B location. A review of recent and historical aerial imagery indicates the area containing the project site consisted of open space prior to 1946 that has since been subject to disturbance. The existing roadways surrounding and leading to the project site, Ceanothus Drive and Alta Loma Drive, were developed prior to 1938, and the existing Reservoir 2B on the project site was installed in 1946. Significant residential development southwest of the project site along Ceanothus Drive was completed between 1952 and 1963, and a network of hiking trails was established just east of the project site sometime between 1946 and 1952 (HistoricAerials.com 2022).

Laguna Beach experiences a Mediterranean climate, with mild, wet winters and warm, dry summers. Typical summertime highs range from 73 to 79 degrees Fahrenheit (°F) with wintertime temperatures ranging from 43 to 45 °F. Average annual precipitation Laguna Beach is approximately 12 inches, most of which falls between November and April (Western Regional Climate Center 2022).

Methodology

Within the limits of the project site and a 100-foot buffer (hereafter referred to as the Study Area), waters and wetlands potentially subject to USACE jurisdiction were delineated in accordance with the following:

- *Wetlands Delineation Manual* (United States Army Corps of Engineers 1987);
- *Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest* (United States Army Corps of Engineers 2004);
- *Regulatory Guidance Letter No. 05-05: Ordinary High Water Mark Identification* (United States Army Corps of Engineers 2005);
- *Distribution of Ordinary High Water Mark (OHWM) Indicators and Their Reliability in Identifying the Limits of "Waters of the United States" in Arid Southwestern Channels* (United States Army Corps of Engineers 2006);
- *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (United States Army Corps of Engineers 2008a);
- *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (United States Army Corps of Engineers 2008b);
- *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (United States Army Corps of Engineers 2010); and
- Code of Federal Regulations (CFR) sections that pertain to factors constituting the OHWM for non-wetland waters ("other waters") (33 CFR 328.3 and 33 CFR 328.4).

Potential RWQCB jurisdiction was determined in accordance with RWQCB's current policy of extending the lateral limits of RWQCB jurisdiction to the top of bank. Procedures for defining potential RWQCB jurisdiction pursuant to the State Water Resources Control Board's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* was approved on April 2, 2019 and formally implemented on May 28, 2020. Potential CDFW jurisdiction was delineated in accordance with CFGC Sections 1600 et seq.. Appendix A presents a discussion of pertinent regulations and definitions pertaining to this jurisdictional delineation.

Waters on site were also analyzed in accordance with the City's LCP. Laguna Beach Municipal Code Chapter 25.50.030 defines significant watercourses as "those that are in their natural condition, and which serve a distinct functional, scenic, or ecological purpose. As applied, ecological purposes include those related to wildlife habitats, particularly feeding, watering, and breeding areas, and biotic habitat areas. Scenic purposes include those related to view corridors, density relief, or general aesthetic appeal. Functional purposes include those related to hydrologic considerations."

Literature Review

Prior to the field survey, Rincon reviewed aerial photographs of the project site, regional and site-specific topographic maps, the U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS) Web Soil Survey (2021a), and other available background information to better characterize the nature and extent of potentially jurisdictional waters and wetlands. The U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) (U.S. Fish and Wildlife Service 2021) and

U.S. Geological Survey National Hydrography Dataset (NHD) (U.S. Geological Survey 2021) were also reviewed to determine if any wetlands had been previously documented and mapped on or in the vicinity of the project site.

Field Survey

Rincon biologists Jared Reed and Kevin Gugerty conducted an ARD within the Study Area on December 2, 2021. All potentially jurisdictional features within and adjacent to the site were inspected to record existing conditions and determine potential jurisdictional limits.

Drainage features, riparian habitat, width measurements, and wetland sample points were mapped using a Trimble® GeoXT GPS unit and recent aerial photography. Width measurements for potential USACE jurisdiction were determined based on the lateral extent of the OHWM. Potential RWQCB jurisdictional limits were measured laterally from bank to bank. Potential CDFW jurisdictional limits were also measured laterally from bank to bank at the top of the channel, or to the outer drip-line of associated riparian vegetation, if present. Width measurements were taken at approximately 100-foot intervals or based on changes in drainage width, using a 100-foot tape. One wetland sample point was taken at a representative location to determine the presence/absence of wetland indicators, such as hydrophytic vegetation, hydric soils, and wetland hydrology. Soil test pits confirmed the soil conditions from the Web Soil Survey database review. Soils data was collected using a shovel and Munsell color chart.

Delineation Results

This section provides the findings of the ARD field survey and provides a description of the major vegetation units observed, soil types encountered, and hydrology in the Study Area. Results of the single wetland sample point are summarized in Table 1. Data from this sample point were entered on standardized Wetland Determination Forms, which are presented in Appendix B. Representative photographs of the drainage features are shown in Appendix C.

Vegetation

Vegetation communities observed within the Study Area was classified using the systems provided in *A Manual of California Vegetation, Second* Edition (MCV2) (Sawyer et al. 2009). Vegetation communities and land cover types documented within the Study Area during the ARD survey include big pod ceanothus chaparral, California sagebrush, California buckwheat scrub, fountain grass swards, and developed and ornamental areas. Brief descriptions of the vegetation communities present in the Study Area are provided below and illustrated in Figure 4.

Big Pod Ceanothus Chaparral (*Ceanothus megacarpus* Shrubland Alliance)

This alliance is typically found along rocky, dry slopes, canyons, and ridges between 1 to 5,715 feet (0 to 1741 meters) in elevation and can tolerate various soils (Sawyer et al. 2009). This vegetation community is ranked G4S4 and is not considered sensitive (CDFW 2021).

Big pod ceanothus chaparral is the dominant community and occurs throughout the Study Area. In the northeastern portion of the Study Area this community occurs along the slopes east of the reservoir site and consists of big pod ceanothus (*Ceanothus megacarpus*), lemonade berry (*Rhus integrifolia*), and toyon (*Heteromeles arbutifolia*). This community also occurs southwest of the reservoir site within the central portion of the Study Area. The Study Area contains 3.94 acres of this alliance.

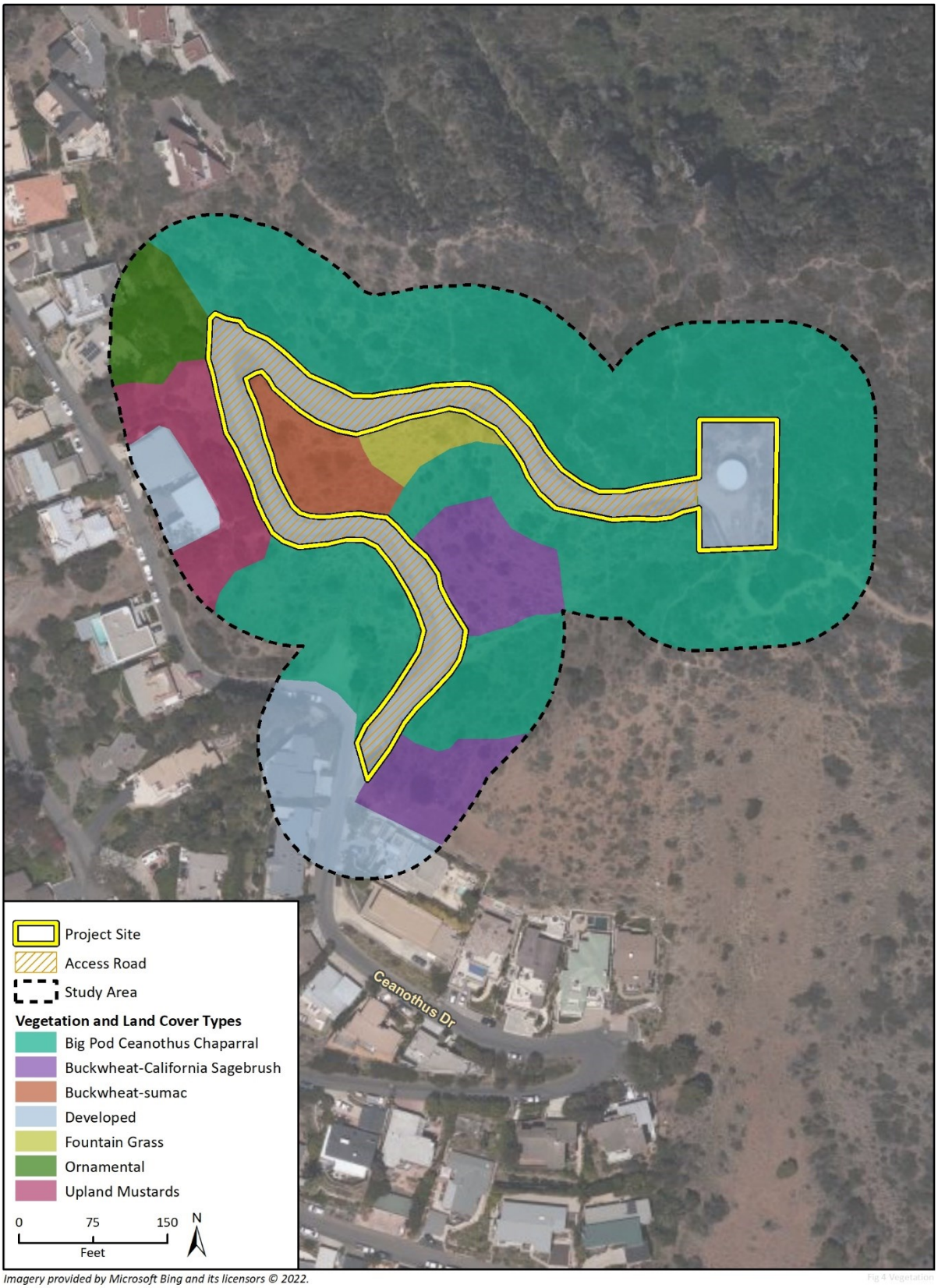
California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance)

The California buckwheat scrub alliance is typically found along upland slopes, intermittently flooded arroyos, channels and washes, and rarely within flooded low-gradient deposits, between sea level and 3,940 feet in elevation. Soils are typically coarse, well drained, and moderately acidic to slightly saline (Sawyer et al. 2009). This vegetation community is ranked G5S5 and is not considered sensitive (CDFW 2021).

This vegetation community is found within the southeastern portion of the Study Area, along a gently sloping hill east of the access road. The shrub layer is composed of California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), sticky monkeyflower (*Diplacus aurantiacus*), California brittlebush (*Encelia californica*), chaparral mallow (*Malacothamnus fasciculatus*), and black sage (*Salvia mellifera*). The Study Area contains 0.54 acre of this alliance.

The Study Area also contained a patch of *Eriogonum fasciculatum – Salvia mellifera – Malosma laurina* Shrubland Association. This vegetation community was dominated by California buckwheat and laurel sumac (*Malosma laurina*). The Study Area contains 0.25 acre of this association.

Figure 4 Vegetation Communities and Land Cover Types



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Fountain Grass Swards (*Pennisetum setaceum- Pennisetum ciliare* Herbaceous Semi-Natural Alliance)

Fountain grass is a non-native perennial grass that is typically found in warm, arid landscapes within canyons and along roadsides, arroyos, and washes (Sawyer et al. 2009). Fountain grass has a California Invasive Plant Council raking of Moderate, indicating a substantial and apparent ecological impact on plant and animal communities, physical processes, and vegetation structure; however, the impacts are not severe (California Invasive Plant Council 2022).

Fountain grass swards occurred within the central portion of the Study Area along the access road and were interspersed within the California buckwheat scrub. The Study Area contains 0.13 acre of this vegetation community.

Upland Mustards (*Brassica nigra* Semi-Natural Herbaceous Alliance)

This vegetation community is typically found in fallow fields, grasslands, roadsides, levee slopes, disturbed coastal scrub, riparian areas, cleared roadsides, and waste places between sea level to 4,920 feet (sea level to 1,500 meters) in elevation. Black mustard (*Brassica nigra*), short podded mustard (*Hirschfeldia incana*), wild radish (*Raphanus sativus*), or other mustards occur with non-native plants comprising over 80 percent cover in the herbaceous layer (Sawyer et al. 2009). This vegetation community is not provided a rarity ranking due to the dominance of non-native species.

This vegetation community is found within the western portion of the Study Area adjacent to the developed residential areas. The Study Area contains 0.35 acre of this alliance.

Developed

The developed areas of the Study Area consist of buildings and other infrastructure. Development is present within the southwest portion of the Study Area adjacent to the access road and includes the unpaved access road leading to the Reservoir 2B location. These areas contain existing residential buildings, the compacted dirt access road, as well as the existing fenced Reservoir 2B location. The Study Area contains 1.66 acres of developed land.

Other Land Cover

The other land cover type within the Study Area consists of ornamental landscaping. This land cover type is not officially identified in MCV2 (Sawyer, et al. 2009) as a defined vegetation community. Ornamental landscaping is situated within the northwest corner of the Study Area within a residential community and included Eucalyptus trees (*Eucalyptus* sp.) and other non-native species. The Study Area contains 0.24 acre of ornamental land cover.

Hydrology

The Study Area is located within the approximately 152-square mile Aliso Creek-Frontal Gulf of Santa Catalina Watershed (Hydrologic Unit Code 1807030103). Headwaters of Aliso Creek originate in the Cleveland National Forest, and the creek ultimately discharges into the Pacific Ocean at Aliso Beach.

The NWI and NHD do not identify any wetlands or waters within the Study Area (Figure 5). Two drainage features were identified within the Study Area and were assessed for the potential

presence of USACE, RWQCB, and CDFW jurisdiction during the ARD field survey. Only one of the features was determined to be a potentially jurisdictional drainage.

Unnamed Ephemeral Drainage

An unnamed ephemeral drainage extends in a southwest direction from a point near the existing Reservoir 2B location but does not connect to the project site The unnamed drainage was determined to be ephemeral because it only conveys flows immediately after a rain event, as evidenced by a lack of hydrophytic vegetation, hydric soils, and hydrology indicators. This feature exhibited a faint OHWM, as evidenced by limited drift deposits and vegetation matting, and a bed and bank. The top of bank was determined by the presence of a slight break in the bank slope on both sides of the channel bed. Both the channel bed and banks are steep; therefore, storm flows are rapidly conveyed through the drainage feature. The faint OHWM measured approximately two feet across. The presence of a defined bed and bank indicate the feature is potentially subject to the jurisdiction of the San Diego RWQCB and CDFW. The top of bank measured approximately six feet wide, and the unnamed ephemeral drainage is approximately 225 feet long within the Study Area.

The ephemeral drainage contains only upland vegetation, including California buckwheat, toyon, sticky monkeyflower, fountain grass, and ripgut brome. No hydrophytic vegetation was observed within the drainage feature.

Substrates within the channel bed were dry and had a gravelly texture. Bedrock was found to be present approximately 12 inches below the soil surface. No hydric soil indicators were found within this drainage feature.

The ephemeral drainage appeared to only convey storm flows for a short period of time; therefore, habitat associated with the feature is not suitable for fish. Only upland wildlife species were seen utilizing the habitat associated with the drainage.

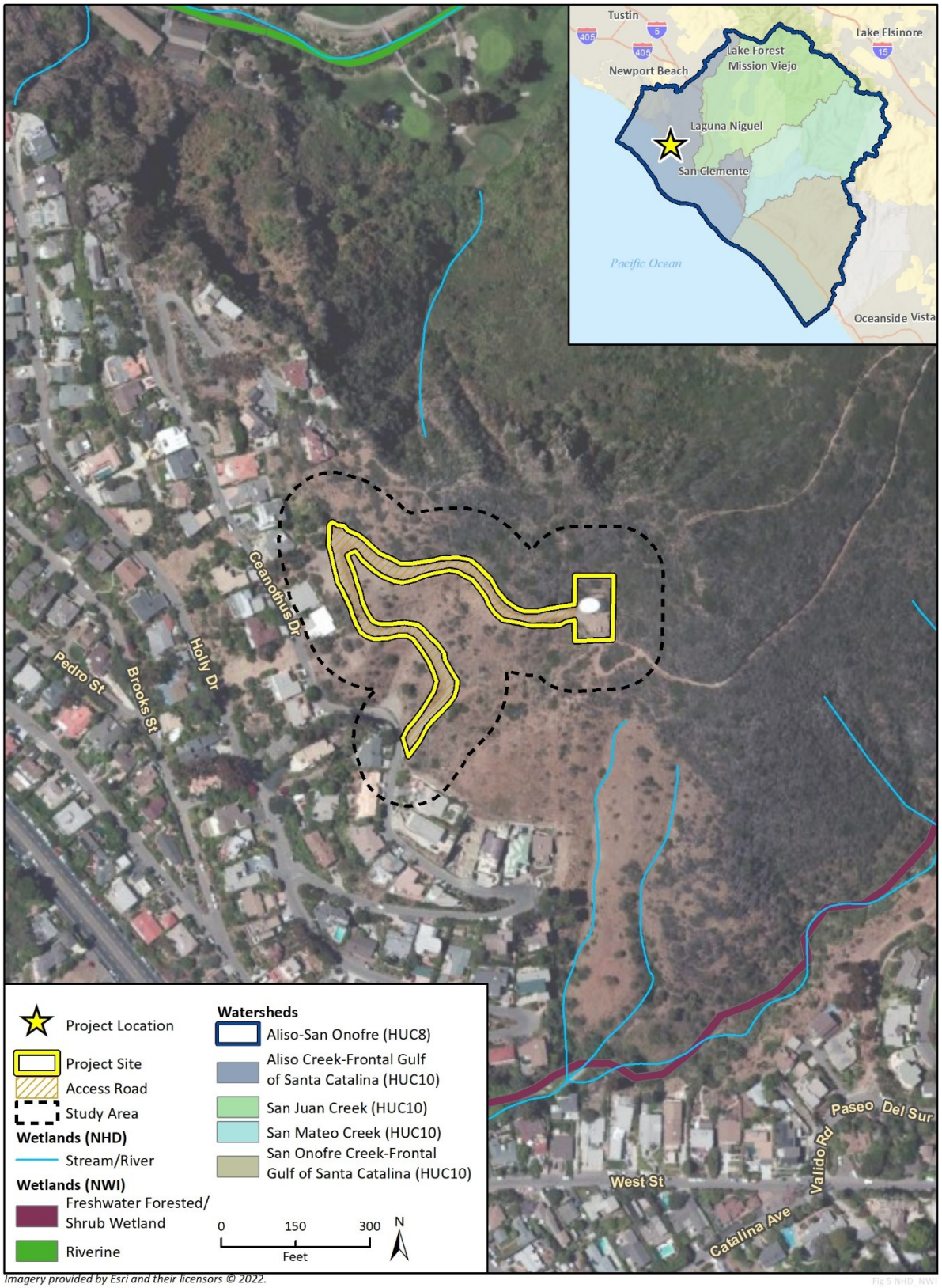
Observed stressors included invasion by pampas grass. Additionally, the area immediately upstream of the drainage feature near the project site contained dense mustard that has the potential to spread into the drainage feature.

The unnamed ephemeral drainage appears to convey sheet flows from the existing Reservoir 2B location downslope for a short distance until the drainage becomes more concentrated into a somewhat distinguishable flowline. This feature then sheet flows onto the unpaved access road towards Ceanothus Drive, where it dissipates without any downstream connectivity to other aquatic resources. No culverts were observed along Ceanothus Drive near the Study Area. The drainage feature is not shown on either the NWI or NHD map. The unnamed ephemeral drainage is not a tributary to a major waterway and is therefore not subject to the jurisdiction of the USACE.

Non-jurisdictional Hillside Swale

The second feature was located west of the unnamed drainage. This feature was determined to be non-jurisdictional for USACE, CDFW, and RWQCB due to a lack of bed and bank or an OHWM. There was also no evidence of concentrated flow, so this feature was determined to be a non-jurisdictional hillside swale. Storm flows appeared to originate from erosion and surface runoff from the adjacent road immediately northeast of the swale. No hydrophytic vegetation, hydric soils, or wetland hydrology were observed within this swale.

Figure 5 National Wetland Inventory, National Hydrography Dataset, and Watershed Boundaries



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Additional data provided by USGS and USFWS, 2021.

Neither feature would be considered a significant watercourse as defined in the City's LCP because they do not serve a distinct functional scenic or ecological purpose. The features do not provide significant wildlife habitat, including feeding, watering, and breeding areas. Wildlife activity was low in the area during the ARD field survey, and no evidence of nesting was observed. These features also do not serve scenic purposes, including density relief or general aesthetic appeal, due to their adjacency to dense residential development.

Soils

The USDA NRCS Web Soil Survey identifies two soil map units in the project site (Figure 6) (USDA NRCS 2021a). The physical characteristics of the soil units, as described below, are general and not necessarily indicative of characteristics currently present within the project site. The soils on the project site have been historically disturbed and likely no longer resemble the mapped soil unit descriptions presented below.

Soper-gravelly loam, 30 to 50 percent slopes, MLRA 20

Soper-gravelly loam soils are well drained and occur on the backslope of hills. These soils are derived from residuum weathered from sandstone and are not considered hydric soils (USDA NRCS 2021b).

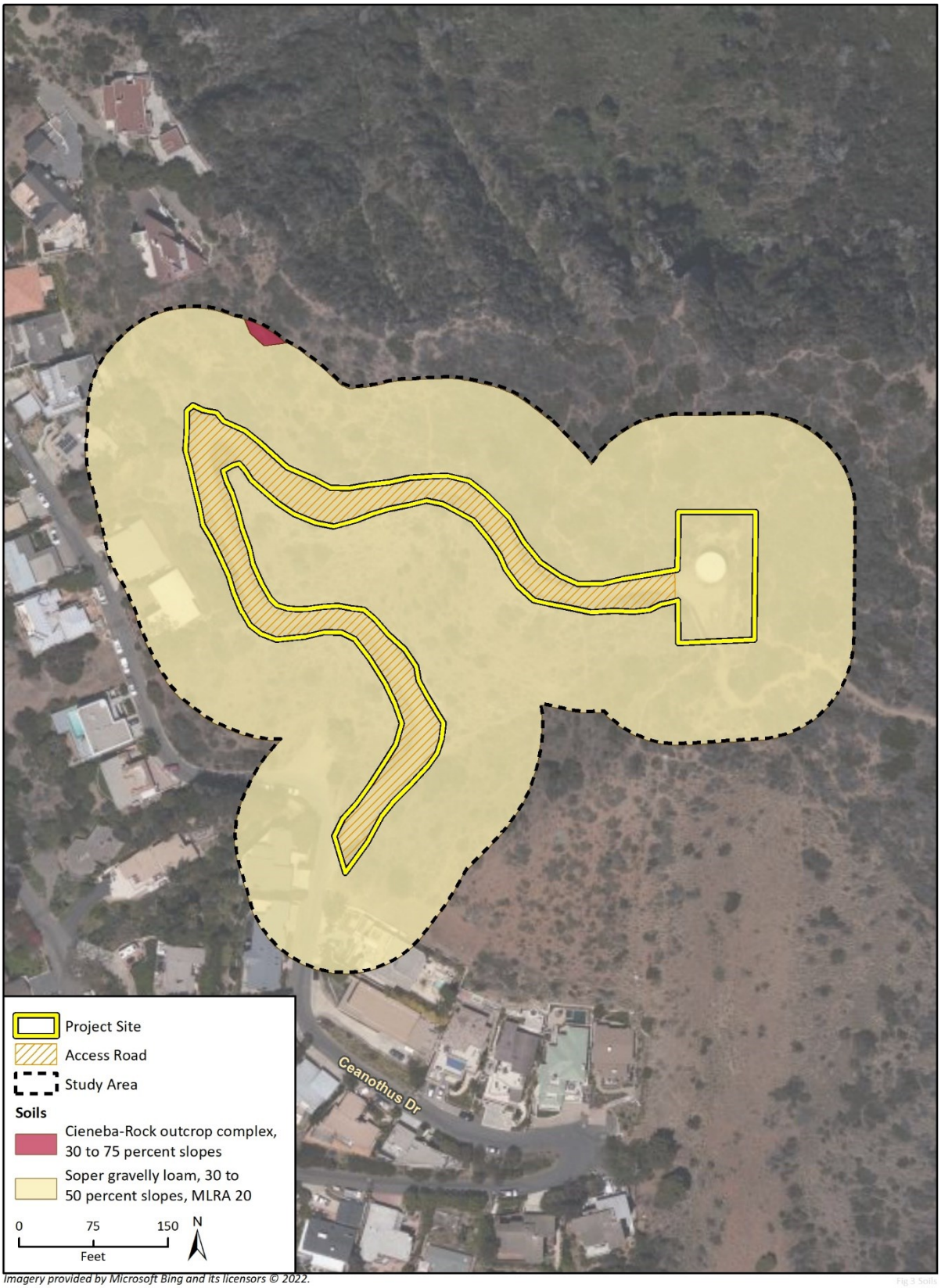
Cieneba-Rock outcrop complex, 30 to 75 percent slopes

Cieneba-Rock outcrop complex soils are somewhat excessively drained and occur on the backslopes of hills. These soils are derived from residuum weathered from granite and are not considered hydric soils (USDA NRCS 2021b).

Sample Point

Based on soil pit data from the ARD field survey (Table 1; Appendix B), no hydric soils indicators are present within the unnamed ephemeral drainage. The drainage contains gravel that may drain water too rapidly for hydric soils indicators to develop within the soil profile. In addition, the unnamed drainage is dominated by upland plant species and therefore no hydrophytic vegetation is present. Surface water, water table, and saturation were all absent from the soil pit.

Figure 6 USDA NRCS Soils



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Additional data provided by USDA, 2021.

Table 1 Summary of Hydrophytic Vegetation, Hydric Soils, and Wetlands Hydrology Wetlands Indicator Status

Sampling Point	Plant Species Scientific Name	Plant Species Common Name	Absolute Percent Cover (%)	Wetland Indicator Status[1]	Passed Dominance Test	Passed Prevalence Index	Meets Hydrophytic Vegetation Criterion	Meets Hydric Soils Criterion	Meets Wetlands Hydrology Criterion
1	*Eriogonum fasciculatum*	California buckwheat	20	UPL	Yes	No	No	No	No
	Heteromeles arbutifolia	toyon	5	UPL	No	No	No	No	No
	Diplacus aurantiacus	sticky monkeyflower	5	UPL	No	No	No	No	No
	Pennisetum setaceum	fountain grass	20	UPL	Yes	No	No	No	No
	Bromus diandrus	ripgut brome	80	UPL	Yes	No	No	No	No

[1] UPL = obligate upland species (see Appendix B for a detailed description of each indicator status)

Assessment of Jurisdictional Waters and Wetlands

Based on the findings of Rincon's ARD survey, the unnamed ephemeral drainage is potentially subject to RWQCB and CDFW jurisdiction because the drainage contains bed, bank, and channel features. The drainage conveys sheet flows southwest from the Reservoir 2B location towards the unpaved access road and Ceanothus Drive. The second feature observed in the Study Area is determined to be a non-jurisdictional swale due to a lack of a defined OHWM, bed, bank, and channel. The resource agencies make the final jurisdictional determination, and the information presented here is for recommendation purposes only.

Table 2 summarizes the total acreage of potentially jurisdictional waters and wetlands on the project site for each regulatory agency. Figure 7 depicts the location and extent of potential RWQCB and CDFW jurisdiction within the Study Area.

Table 2 Potential RWQCB and CDFW Jurisdictional Area

Drainage	Potential RWQCB Jurisdiction Non-wetland Waters Acres (linear feet)	Potential RWQCB Jurisdiction Wetland Waters Acres (linear feet)	Potential CDFW Jurisdiction Streambed/ Riparian Acres (linear feet)
Unnamed Ephemeral Drainage	0.68 (243)	0 (0)	0.68 (243)

RWQCB Jurisdiction

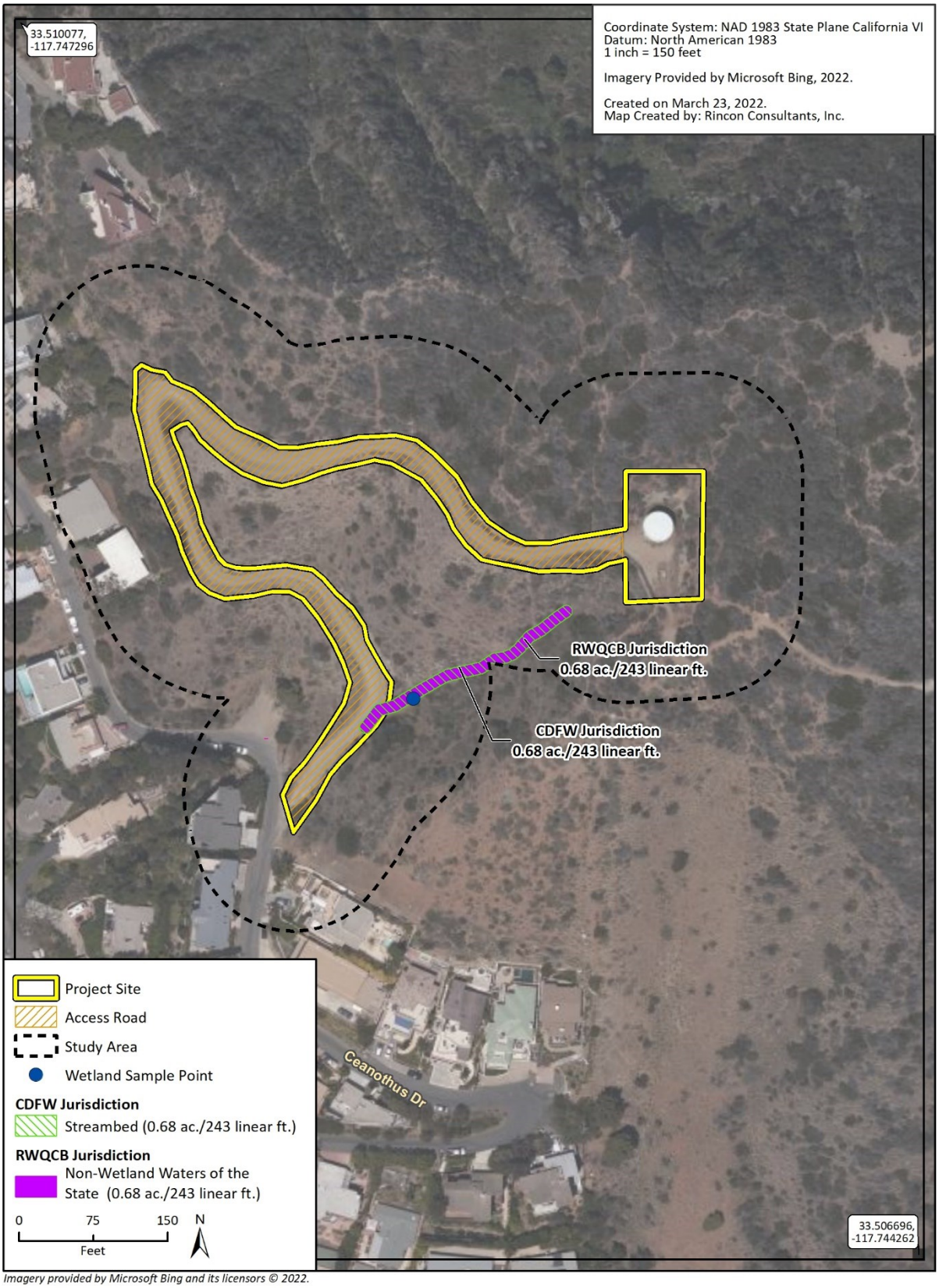
The California State Water Resources Control Board's *Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State* (2019), states that waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that a lack of vegetation does not preclude an area from meeting the definition of a wetland. In practice, the San Diego RWQCB extends its jurisdictional area to the top of banks, which is coterminous with CDFW jurisdiction. The top of bank width for the unnamed drainage was approximately six feet. Soil pits confirmed waters within the Study Area contained potential non-wetland waters of the State. No hydric soils, hydrophytic vegetation, or evidence of hydrology was present; therefore, no wetland waters of the State are present in the Study Area.

The unnamed ephemeral drainage contains 0.68 acre and 243 linear feet of potential non-wetland waters potentially subject to the jurisdiction of the RWQCB.

CDFW Jurisdiction

The unnamed ephemeral drainage contains 0.68 acre and 243 linear feet of streambed potentially subject to the jurisdiction of CDFW. The unnamed ephemeral drainage's channel measured width bank to bank was approximately six feet.

Figure 7 Jurisdictional Delineation Results



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City of Laguna Beach LCP

The unnamed ephemeral drainage and the hillside swale are not considered significant natural watercourses per the City's LCP because they do not serve a distinct functional, scenic, or ecological purpose. The drainage and swale provide no special or significant wildlife habitat, including feeding or breeding areas. In addition, the drainage and swale do not serve any scenic purposes, such as view corridors or density relief.

Conclusion

Project implementation may be subject to the permit requirements of the RWQCB under the Porter-Cologne Act and a Streambed Alteration Agreement from the CDFW pursuant to CFGC Section 1600 et. seq. Rincon recommends coordination with the RWQCB and CDFW to confirm the limits of jurisdiction, obtain a formal jurisdictional determination, and establish any applicable permitting needs.

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Appendix A

Regulatory Framework

Regulatory Framework

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, State, and local levels. A number of federal and State statutes provide a regulatory structure which guide the protection of jurisdictional features. Agencies with the responsibility for protection of jurisdictional features within the project site include:

- Regional Water Quality Control Board (waters of the State)
- California Department Fish and Wildlife (riparian areas, streambeds, and lakes)
- City of Laguna Beach Local Coastal Program

Regional Water Quality Control Board Jurisdiction

The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) have jurisdiction over "waters of the State," which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code sec. 13050[e]). These agencies also have responsibilities for administering portions of the Clean Water Act (CWA).

Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by the SWRCB for multi-region projects. The process begins when an applicant submits an application to the RWQCB and informs the United States Army Corps of Engineers (USACE; or the applicable agency from which a license or permit was requested) that an application has been submitted. The USACE will then determine a "reasonable period of time" for the RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects, but may not exceed one year. When the period has elapsed, if the RWQCB has not either issued or denied the application for Section 401 Certification, the USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued, it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code Section 13000 et seq.), the policy of the State is as follows:

- The quality of all the waters of the State shall be protected

- All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

The Porter-Cologne Act established the nine RWQCBs (based on watershed boundaries) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint-source-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (*Procedures*), effective May 2020, make it clear the agency will apply the Porter-Cologne Act's requirements to discharges of dredge and fill material as well. The *Procedures* state they are to be used in issuing CWA Section 401 Certifications and WDRs and largely mirror the existing review requirements for CWA Section 404 Permits and Section 401 Certifications, incorporating most elements of the United States Environmental Protection Agency's *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

Non-Wetland Waters of the State

The SWRCB and RWQCBs have not currently established regulations for field determinations of waters of the State, except for wetlands. In many cases, the RWQCBs interpret the limits of waters of the State to be bounded by the Ordinary High Water Mark (OHWM) unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance, each RWQCB may interpret jurisdictional boundaries within their region, and the SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by the RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body as compared to the USACE.

Wetland Waters of the State

Procedures for defining wetland waters of the State pursuant to the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* went into effect May 28, 2020. The SWRCB defines an area as a wetland if, under normal circumstances:

(i) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;

(ii) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and

(iii) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB's *Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State* (2020), states that waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that the methods shall be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

California Department of Fish and Wildlife Jurisdiction

California Fish and Game Code section 1602 states that it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying the California Department of Fish and Wildlife (CDFW) of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFW determines the activity may substantially adversely affect an existing fish or wildlife resource, the entity may be required to obtain from CDFW a Streambed Alteration Agreement (SAA), which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity described in the notification. Upon receiving a complete Notification of Lake/Streambed Alteration, CDFW has 60 days to present the entity with a Draft SAA. Upon review of the Draft SAA by the applicant, any problematic terms are negotiated with CDFW, and a final SAA is executed.

The CDFW has not defined the term "stream" for the purposes of implementing its regulatory program under CFGC Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified or how their limits should be delineated. However, four relevant sources of information offer insight as to the appropriate limits of CDFW jurisdiction, as outlined below.

- **The plain language of CFGC Section 1602** establishes the following general concepts:
  - References "river," "stream," and "lake"
  - References "natural flow"
  - References "bed," "bank," and "channel"
- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 [1987]), which interpreted CFGC Section 1602's use of "stream" to be as defined in common law. The Court indicated that a "stream" is commonly understood to:
  - Have a source and a terminus
  - Have banks and a channel
  - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
  - Represent the depression between the banks worn by the regular and usual flow of the water
  - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
  - Include the land that is covered by the water in its ordinary low stage
  - Include lands below the OHWM

- **CDFW regulations** defining "stream" for other purposes, including sport fishing (14 California Code of Regulations 1.72) and streambed alterations associated with cannabis production (14 California Code of Regulations 722[c][21]), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation
- **Guidance documents**, *including A Field Guide to Lake and Streambed Alteration Agreements* (California Department of Fish and Game 1994) and *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically
  - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
  - Width of a stream course can reasonably be identified by physical or biological indicators
  - A stream may have one or more channels (single thread vs. compound form)
  - Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse
  - Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
  - Biologic components of a stream may include aquatic and riparian vegetation, all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
  - The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied to establish the boundaries of streambeds in various environments. Importance of each factor may be weighted based on site-specific considerations and the applicability of the indicators to the streambed at hand.

City of Laguna Beach Local Coastal Program Jurisdiction

The City of Laguna Beach Local Coastal Program (LCP) and Laguna Beach Municipal Code Section 25.50.030 regulate "significant natural watercourses." Significant natural watercourses are those that are in their natural condition, and which serve a distinct functional, scenic, or ecological purpose. As defined, ecological purposes include those related to wildlife habitats, particularly feeding, watering and breeding areas, and biotic habitat areas. Scenic purposes include those related to view corridors, density relief, or general aesthetic appeal. Functional purposes include those related to hydrologic considerations. The LCP includes information on proposals to add or

delete watercourses from the environmentally sensitive areas map or to change the status of significant watercourses.

Appendix B

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Reservoir 2B | City/County: Laguna Beach/Orange | Sampling Date: 12/2/21
Applicant/Owner: South Coast Water District | State: CA | Sampling Point: 1
Investigator(s): J. Reed, K. Gugerty | Section, Township, Range: 06, 8 South, 8 West
Landform (hillslope, terrace, etc.): Steep ravine | Local relief (concave, convex, none): Concave | Slope (%): 50
Subregion (LRR): C | Lat: 33.508220°N | Long: 117.745974°W | Datum: NAD83
Soil Map Unit Name: Soper gravelly loam, 30 to 50 percent slopes, MLRA 20 | NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 100 s.f.)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	N/A = Total Cover		
Sapling/Shrub Stratum (Plot size: 100 s.f.)			
1. Eriogonum fasciculatum	20	Y	NL
2. Heteromeles arbutifolia	5	N	NL
3. Mimulus aurantiacus	5	N	NL
4.			
5.			
	30 = Total Cover		
Herb Stratum (Plot size: 100 s.f.)			
1. Pennisetum setaceum	20	Y	NL
2. Bromus diandrus	80	Y	NL
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:
Upland vegetation present, with significant invasion by fountain grass. Coastal sage scrub.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
10	10YR 4/4	100					Gravel	Dry Substrates

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Bedrock

Depth (inches): 12 Inches

Hydric Soil Present? Yes ____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ✓ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ____

Water Table Present? Yes ____ No ✓ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Weak evidence of hydrology. Flow only indicated by minor vegetation matting and limited drift deposits.

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Reservoir 2B
Project Number: 2-1820
Stream: Ephemeral Drainage A
Investigator(s): T. Reed, K. Gugerty

Date: 12/2/21
Town: Laguna Beach
Photo begin file#: 1

Time: 8:40
State: CA
Photo end file#: 2

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: Drainage drove access road off of Ceanothus Drive.

Projection: 33.592340°N **Datum:** NAD 83
Coordinates: 117.74597°W

Potential anthropogenic influences on the channel system: Access road is drove and below confined ravine. Likely receives surface runoff from access road drove ravine via sheet flow. Drainage conveys surface flows onto access road below ravine.

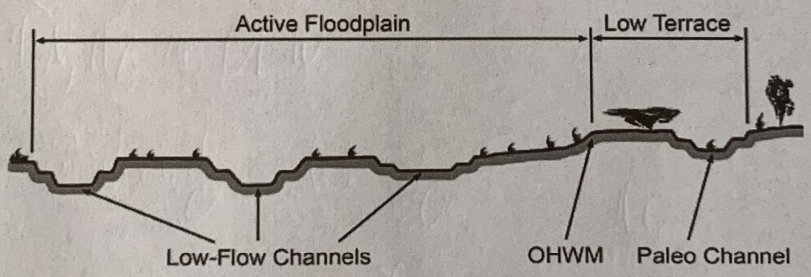
Brief site description: Steep topography and gradient throughout channel bed. Surface flows from hilltop have carved out a ravine. Narrow channel bed with well-defined and steep slopes on both sides.

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2021
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

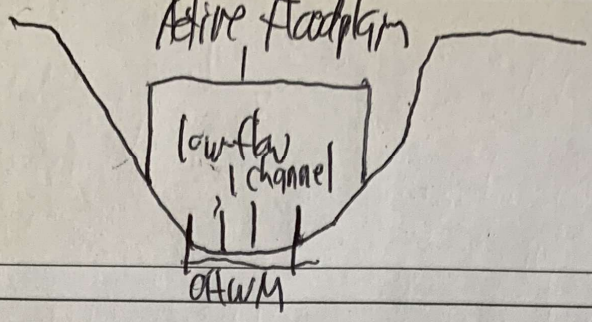


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☐ GPS
   - ☐ Other:

Project ID: Reservoir 2B **Cross section ID:** 1 **Date:** 12/2/21 **Time:** 8:45 am

Cross section drawing:



OHWM

GPS point: 33.508257°N, 117.745957°W

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☒ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:
OHWM is approx. 2' wide evidence throughout drainage feature. Rocky substrates, cobbles are prevalent throughout channel bed. Weak hydrology but vegetation matting and drift are present.

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: 33.508234°N, 117.745971°W

Characteristics of the floodplain unit:
Average sediment texture: sand gravel, granules
Total veg cover: 70 % Tree: 0 % Shrub: 30 % Herb: 40 %
Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☒ Drift and/or debris
- ☒ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:
Channel is well-covered by vegetation, indicating short and infrequent flows.

Project ID: Reservoir 2B **Cross section ID:** 1 **Date:** 12/2/21 **Time:** 9:00 am

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: 33.508220°N, 117.745943°W

Characteristics of the floodplain unit:

Average sediment texture: Very coarse sand

Total veg cover: 80 % Tree: 0 % Shrub: 70 % Herb: 10 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☒ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

~ 45° slope ranges from 2:1 to 1.5:1. Confined riverine floodplain.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Appendix C

Site Photographs

Photograph 1. Photo of sheet flow area uphill from unnamed ephemeral drainage, facing northeast.

Photograph 2. Downstream view of unnamed ephemeral drainage within the Study Area, facing southwest.

Photograph 3. Photo of soil test pit dug within the unnamed ephemeral drainage.

Photograph 4. California buckwheat scrub and fountain grass within the Study Area.

Photograph 5. Photo of existing Reservoir 2B.

Photograph 6. Southwest view of big pod ceanothus chaparral habitat, facing west toward the Pacific Ocean.

Photograph 7. View of the Study Area, facing northeast toward Reservoir 2B.

Photograph 8. Photo of unpaved access road in Study Area.

Appendix D

Cultural Resources Assessment

Rincon Consultants, Inc.

250 East 1st Street, Suite 1400
Los Angeles, California 90012

213 788 4842

info@rinconconsultants.com
www.rinconconsultants.com

February 3, 2022
Project No.: 21-11820

Taryn Kjolsing, PE, Engineering Manager
South Coast Water District
31592 West Street
Laguna Beach, California 92651
Via email: tkjolsing@scwd.org

Subject: Cultural Resources Assessment for the South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Ms. Kjolsing:

The South Coast Water District (SCWD) retained Rincon Consultants, Inc. (Rincon) to conduct a cultural resources assessment for the proposed Reservoir 2B Replacement Project (project) in Laguna Beach, Orange County, California. Rincon understands that PaleoWest Archaeology (PaleoWest) conducted a cultural resources study of the site of the existing Reservoir 2B in 2017. As a result, this cultural resources assessment focuses on the access road improvements associated with the project. This letter report documents the results of the assessment related to the access road, which consisted of a cultural resources records search, Sacred Lands File search, and a pedestrian field survey. The proposed project is subject to the California Environmental Quality Act (CEQA), and SCWD is the lead agency under CEQA.

Study Area

The study area for this assessment consists of an approximately 1,140-linear foot unpaved access road that covers an approximately 0.5-acre area on Assessor's Parcel Numbers (APN) 658-191-03, 658-191-04, and 056-051-29. The access road leads from Ceanothus Drive to the current SCWD Reservoir 2B site (Attachment 1, Figure 1). The study area lies within Sections 5 and 6 of Township 8 south, Range 8 west of the *San Juan Capistrano South, California* (United States Geological Survey [USGS] 2021) topographic quadrangle (Attachment 1, Figure 2). The study area is bound by Ceanothus Drive to the south; Toovet Trail to the south and east; residential development to the north, south and west; and undeveloped terrain to the east and north. The project site is currently used by SCWD to access the existing Reservoir 2B site.

Project Description

The proposed project would include the demolition of the existing Reservoir 2B and the construction of two 0.1-million-gallon (MG) aboveground reservoirs. The existing Reservoir 2B is an aboveground, 0.1-MG steel welded reservoir that is approximately 30 feet in diameter and approximately 19 feet in height and was installed in 1946. Although the existing reservoir is of age to be considered as a historical resource, PaleoWest evaluated the reservoir and recommended the reservoir as ineligible for listing in

the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR) (Thomas and McCarthy-Reid 2017).

The existing reservoir would be replaced by two new 0.1-MG steel aboveground reservoirs, each approximately 33 feet in diameter and approximately 21 to 22 feet in height. The purpose of the proposed project is to provide additional capacity for SCWD's 490-pressure zone and contribute to providing a total of 1.8 MG of operational, fire, and emergency storage for this zone.

The project also includes improvements to the unpaved access road leading to the reservoir site. Improvements to the access road would consist of one of the following three options:

- **Minimum Option.** Drainage improvements to the existing road to mitigate stormwater runoff and regrading of the road
- **Mid-Range Option.** Minimum option plus road surfacing using gravel or other permeable road materials
- **Maximum Option.** Minimum option plus asphalt paving of the road

Because the site of the existing Reservoir 2B was previously assessed by PaleoWest in 2017, this assessment focuses on the access road improvements associated with the project, as discussed herein.

Cultural Resources Records Search

On November 11, 2020, Rincon received California Historical Resources Information System (CHRIS) records search results from the South Central Coastal Information Center (SCCIC) (Appendix A). The SCCIC is the official state repository for cultural resources records and reports for the county in which the study area is located. The purpose of the records search was to identify previously recorded cultural resources, as well as previously conducted cultural resources studies within the study area and a 0.5-mile radius surrounding it. Rincon also reviewed the NRHP, CRHR, California Historical Landmarks list, and Built Environment Resources Directory as well as its predecessor the California State Historic Property Data File. Additionally, Rincon reviewed the Archaeological Determination of Eligibility list.

Previously Conducted Studies

The SCCIC records search identified 30 previously conducted cultural resources studies within a 0.5-mile radius of the study area (Attachment 2), three of which include portions of the study area (OR-00255, OR-00937, and OR-04179). The studies that cover a portion of the study area are summarized below.

OR-00255

Scientific Resource Surveys, Inc. conducted study OR-00255 in 1977 for the Aliso Creek Corridor Planning Units 2 and 3. The study was an archaeological assessment to determine and discuss possible impacts to cultural resources. The study included background research, a review of the Archaeological Survey records housed at the University of California, Los Angeles and the Pacific Coast Archaeological Society records in Costa Mesa (Scientific Resource Surveys, Inc. 1977). The assessment included an archaeological survey of the Planning Units 2 and 3 sites, which covered the current study area in its entirety. No cultural resources were recorded within the current study area during this assessment.

OR-00938

Ronald M. Bissel of RMW Paleo Associates, Inc. conducted study OR-00938, a cultural resources status report, in 1988 for the Aliso Creek and Wood Canyon drainages in Orange County. The report reviewed the history and status of cultural resources within its study area and provided recommendations for each drainage, including the need for further investigation, if a resource had been disturbed or damaged, and if the resource could be preserved (Bissel 1988). The report reviewed an area that encompassed the current study area in its entirety. No cultural resources were reported.

OR-04179

The City of Laguna Beach conducted study OR-04179, the Laguna Beach Historic Resources Inventory in 2008. The study lists properties within Laguna Beach that are considered historic properties by the City of Laguna Beach. The inventory evaluated an area encompassing the entirety of the current study area. No historic properties were identified within the current study area.

PaleoWest 2017

Roberta Thomas and Amy McCarthy-Reid of PaleoWest conducted a cultural resources investigation of the Reservoir 2B site (but not the access road) in 2017. The study included background research, a review of historical maps, a cultural resources survey, and a historical evaluation of Reservoir 2B. PaleoWest evaluated Reservoir 2B for eligibility for listing on the CRHR and recommended that the reservoir is not eligible for listing because it does not meet any of the significance criteria. As a result, PaleoWest recommended the reservoir not be considered a historical resource for the purposes of CEQA (Thomas and McCarthy-Reid 2017). The study did not identify any other cultural resources within the current study area and did not recommend further cultural resource management efforts.

Previously Recorded Resources

The SCCIC records search identified 11 previously recorded cultural resources within a 0.5-mile radius of the study area (Table 1 and Attachment 2), none of which are within the study area. The resources within a 0.5-mile radius of the study area consist of seven prehistoric sites, two historic districts, and two historic-period structures.

Table 1 Previously Recorded Resources within 0.5-mile Radius of the Study Area

Primary Number	Trinomial	Resource Type	Description	Recorder(s) and Year(s)	NRHP/CRHR Status	Relationship to Study Area
P-30-000009	CA-ORA-9	Prehistoric Site	Romero's Camp Number 9 (Habitation Camp)	1949 (Unknown); 1966 (Chace, P. G.)	Unevaluated	Outside
P-30-000583	CA-ORA-583	Prehistoric Site	Site 5 (Rock shelter)	1975 (Leonard, N.)	Unevaluated	Outside
P-30-000597	CA-ORA-597	Prehistoric Site	Midden with some lithics	1976 (Dover, C. E.); 2014 (Brunzell, D.)	Unevaluated, likely destroyed	Outside
P-30-000812	CA-ORA-812	Prehistoric Site	Shell and quartz fragments	1979 (Magalousis)	Unevaluated	Outside

Primary Number	Trinomial	Resource Type	Description	Recorder(s) and Year(s)	NRHP/CRHR Status	Relationship to Study Area
P-30-000813	CA-ORA-813	Prehistoric Site	Midden with lithics	1979 (Magalousis); 1986 (Cameron, C.)	Unevaluated	Outside
P-30-000842	CA-ORA-842	Prehistoric Site	Midden with lithics	1979 (Magalousis); 1979 (Roeder, Z.); 2004 (Bakers, C.); 2018 (Strudwick, I.)	Unevaluated, likely destroyed	Outside
P-30-001775	CA-ORA-1775	Prehistoric Site	Shell midden	2016 (Absher, K.)	Unevaluated	Outside
P-30-160147	–	Historic District	South Laguna Commercial Buildings District, Three Arches	1981 (Turnbull, K.)	Buildings within district recommended eligible as district contributor in 1981	Outside
P-30-160186	–	Historic Districts	South Laguna District, Three Arches	1981 (Turnbull, K.)	Buildings within district recommended eligible as district contributor in 1981	Outside
P-30-176779	–	Historic-Period Structure	Aliso Creek Bridge; Bridge 55-0003	2004 (Hope, A.)	Recommended eligible in 2004	Outside
P-30-177513	–	Historic-Period Structure	South Coast Water District Beach Interceptor Sewer and Tunnel	2014 (Brunzell, D.)	Unevaluated	Outside

NRHP = National Register of Historic Places; CRHR = California Register of Historical Resources
Source: SCCIC 2021

Aerial Imagery and Historical Topographic Map Review

Rincon completed a review of aerial imagery and historical topographic maps to ascertain the development history of the study area. Historical topographic maps from 1901 to 1904 depict the study area as undeveloped with one road to the far north (USGS 2021). Development within the study area and its surroundings begins in 1942 through 1983, according to topographic maps (USGS 2021; NETR Online 2021). No topographic maps were accessible from 1904 to 1942 to be reviewed for this assessment. Aerial imagery from 1938 depicts the access road leading to the location of Reservoir 2B; however, the structure had not been constructed yet (NETR Online 2021). From 1946 to 2000, the Reservoir 2B structure is present on the aerial imagery, and residential development expands around the study area (NETR Online 2021). The study area is depicted in its current condition by 2000 (NETR Online 2021).

Sacred Lands File Search

Rincon contacted the Native American Heritage Commission (NAHC) on October 15, 2020, to request a Sacred Lands File (SLF) search of the study area. The NAHC emailed a response on October 19, 2020, stating the SLF search was positive. An SLF search is completed by topographic quadrangle, and a positive SLF result is returned if any sacred sites are identified within the mapping quadrangle that a project lies within; however, no specific locational information is provided. Rincon sent emails to the Juaneño Band of Mission Indians and the Juaneño Band of Mission Indians Acjachemen Nation – Belardes on November 6, 2020, requesting information regarding the positive SLF results. No response was received from the Juaneño Band of Mission Indians. On November 11, 2020, Joyce Perry, Tribal Administrator for the Juaneño Band of Mission Indians Acjachemen Nation – Belardes responded stating that the Laguna Beach/Laguna Niguel area is highly culturally sensitive to the tribe and requested additional information regarding the scope of the project, extent of ground disturbance, and SCCIC results. On November 12, 2020, Rincon sent the SCCIC results via email to Ms. Perry. On December 2, 2020, Ms. Perry sent a follow-up response stating the Aliso Creek, Laguna Beach, and Laguna Niguel areas comprise major ancestral sites and burials located within the vicinity of the study area and 0.5-mile radius. Ms. Perry advised that any ground-disturbing activities should be approached cautiously and requested preparation of an environmental impact study that includes considerations for tribal cultural resources with an emphasis on avoidance. Ms. Perry also recommended the inclusion of Native American monitoring as a condition of approval. Ms. Perry asked that a representative from the Juaneño Band of Mission Indians, Acjachemen Nation- Belardes be included in all monitoring activities. No further correspondence was conducted with Ms. Perry. The SLF search can be found in Attachment 3 of this report.

Pedestrian Field Survey

On November 30, 2021, Rincon Archaeologist Pedro Gonzalez conducted a pedestrian survey of the study area. Mr. Gonzalez walked a series of pedestrian transects generally oriented north-south, spaced no more than 15 meters apart. Areas of exposed ground were inspected for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features that indicate the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic-period debris (e.g., metal, glass, ceramics). Ground disturbances, such as burrows, and drainages were also visually inspected. Ground visibility within the study was excellent (approximately 100 percent).

The study area has been disturbed due to the compaction and use of the road to access the existing Reservoir 2B site. Vegetation throughout the project site consisted of various trees and dried grasses on both sides of the access road. The soils underlying the access road consisted of light brown to tan sandy loam, overlaid with gravel and compacted by vehicular transportation. The field survey did not identify any cultural resources. Figure 3 through Figure 6 in Attachment 1 provide further depiction of the study area's current conditions.

Findings and Recommendations

The background research and pedestrian field survey did not identify any cultural resources within the study area. Reservoir 2B was previously recommended ineligible for listing in the NRHP and CRHR by Thomas and McCarthy-Reid of PaleoWest in 2017. Rincon concurs with the recommendation presented by Thomas and McCarthy-Reid (2017) and did not identify new information to suggest the resource needs to be reevaluated. As such, Reservoir 2B is not considered a historical resource pursuant to CEQA. Therefore, Rincon recommends a finding of ***no impact to historical resources*** associated with the proposed access road improvements for the purposes of CEQA.

Although the SLF search was returned with positive results, no prehistoric resources were identified within the project site, and no cultural resources were identified during the pedestrian survey. Given the negative results of this study, the project site is considered to have low archaeological sensitivity. However, it is possible that unanticipated archaeological deposits and/or human remains could be encountered and damaged during the ground-disturbing activities associated with construction (such as grading and excavation), especially if those activities occur in less-disturbed buried sediments. Consequently, because this impact would be potentially significant, the following mitigation measure to be implemented in the unlikely case of unanticipated discoveries during ground-disturbing activities is recommended to reduce the potential impact to archaeological resources, including those that may be considered historical resources, associated with the proposed access road improvements a ***less than significant impact to archaeological resources with mitigation*** for the purposes of CEQA.

Included below is a summary of existing regulations regarding the discovery of human remains. With adherence to existing regulations, Rincon recommends a finding of ***less than significant impact to human remains*** for the proposed access road improvements for the purposes of CEQA.

Unanticipated Discovery of Cultural Resources

In the unlikely event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area should be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archeology (National Park Service 1983) will be contacted immediately to evaluate the find. If the find is prehistoric, then a Native American representative will be contacted to participate in the evaluation of the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be eligible for listing in the CRHR and cannot be avoided, additional work such as testing and data recovery excavations may be warranted to mitigate any significant impacts to cultural resources to less-than-significant level.

Unanticipated Discovery of Human Remains

In the unlikely event of an unanticipated discovery of human remains, all ground-disturbing activities in the vicinity of the discovery will be immediately suspended and redirected elsewhere. All steps required to comply with State of California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98 will be implemented including contacting the Orange County Sheriff's Department-Coroner. If the human remains are determined to be prehistoric, the coroner will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD shall complete an inspection of the site and provide recommendations for treatment to the landowner within 48 hours of being granted access.

Please do not hesitate to contact Rincon with any questions regarding this cultural resources assessment.

Sincerely,
Rincon Consultants, Inc.

Courtney Montgomery, MA
Archaeologist

Breana Campbell-King, MA, RPA
Cultural Resources Program Manager/
Senior Archaeologist

Christopher A. Duran, MA, RPA
Principal/Senior Archaeologist

Attachments

Attachment 1 Figures

Attachment 2 South Central Coastal Information Center Records Search Results

Attachment 3 Sacred Lands File Search Results

References

Bissell, Ronald M.

1988 Status of Cultural Resources in the Wood Canyon Area, Southern Orange County, California, Replaces Report dates 24 February 1988. Report on file at the South Central Coastal Information Center, California State University, Fullerton.

Laguna Beach, City of

2008 The Laguna Beach Historic Resources Inventory. Report on file at the South Central Coastal Information Center, California State University, Fullerton.

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1983 Archeological and Historic Preservation: Secretary of the Interior's Standards and Guidelines. https://www.nps.gov/subjects/historicpreservation/standards.htm (accessed December 2021).

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2021 *Historic* Aerials. https://www.historicaerials.com/viewer (accessed November 2021).

Scientific Resource Surveys, Inc.

1977 Archaeological Report on the Aliso Creek Corridor – Planning Units 2 & 3, Orange County, California. Purchase Order No. C 56684, Control No. 34254. Report on file at the South Central Coastal Information Center, California State University, Fullerton.

Thomas, Roberta and Amy McCarthy-Reid

2017 Cultural Resources Investigation of 0.34 Acres in Support of the South Coast Water District's Reservoir 2B Rehabilitation Project, Laguna Beach, Orange County, California.

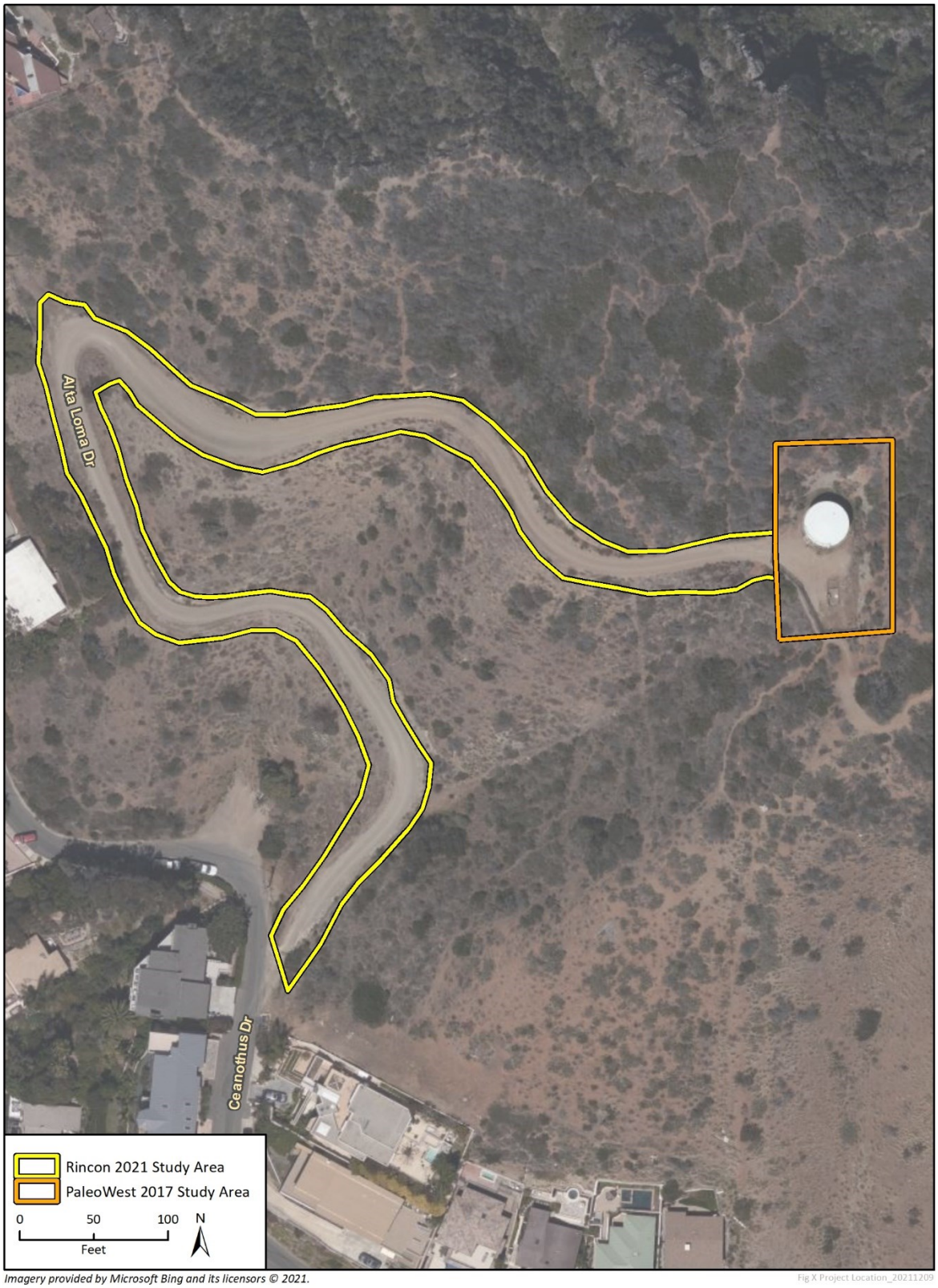
United States Geological Survey (USGS)

2021 Topo View [online map database]. https://ngmdb.usgs.gov/topoview/ (accessed November 2021).

Attachment 1

Figures

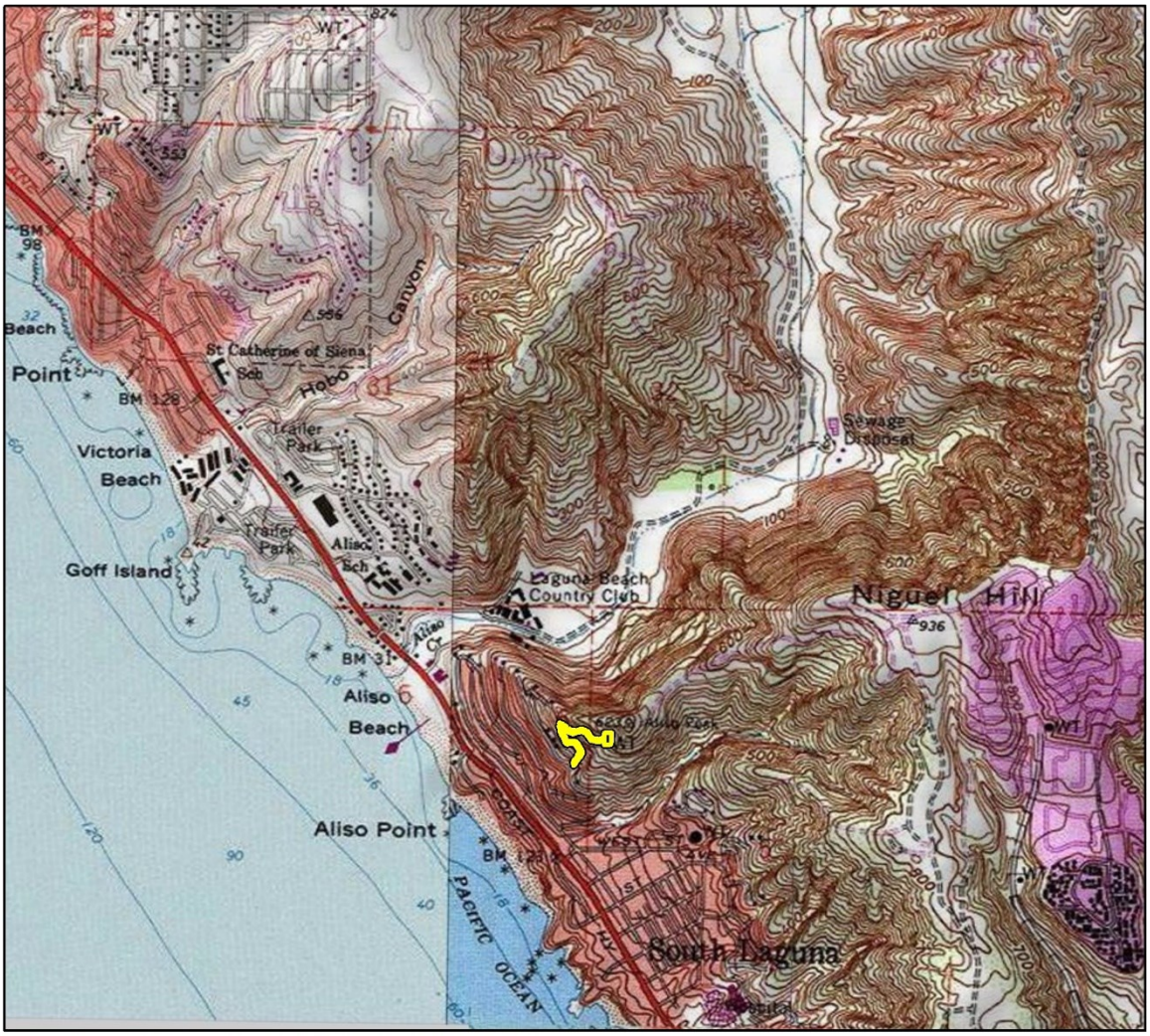
Figure 1 Project Boundary Map



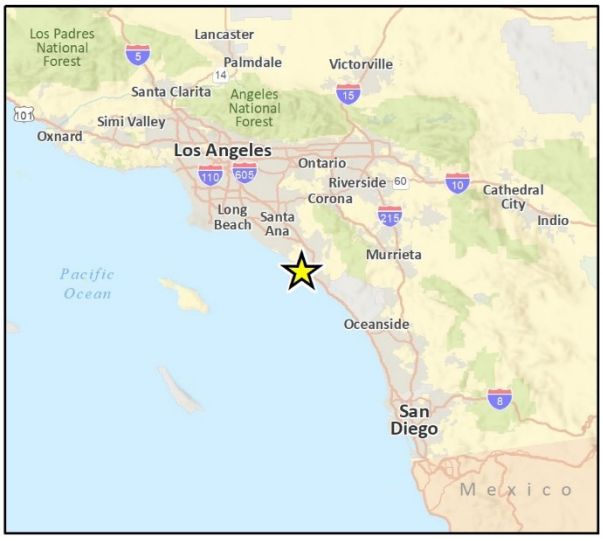
Imagery provided by Microsoft Bing and its licensors © 2021.

Fig X Project Location_20211209

Figure 2 Project Location Map



Basemap provided by National Geographic Society, Esri and their licensors © 2021. San Juan Capistrano South Quadrangle. T08S R08W S05, 06. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.



CRFig 1 Proj Locn Map

Figure 3 Overview of Access Road, Facing Northwest

Figure 4 Overview of Access Road, Facing South

Figure 5 Overview of Access Road, with Vegetation, Facing Northwest

Figure 6 Overview of Access Road at Reservoir 2B Site, Facing Northeast

Attachment 2

South Central Coastal Information Center Records Search Results

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-00094		1976	Desautels, Roger J.	Archaeological Survey Report on Parcel Number 46 - a Residential Lot Located in the South Laguna Area of O. C.	Scientific Resource Surveys, Inc.	
OR-00114		1976	Desautels, Roger J.	Archaeological Survey Report on a Parcel of Land Located in the South Laguna Area of the County of the County of Orange	Scientific Resource Surveys, Inc.	
OR-00125		1976	Desautels, Roger J.	Lot 34 of a Resurvey of a Portion of 3 Arches Palisades #2 (rs. 3-32) in the South Laguna Area of the County of Orange	Scientific Resource Surveys, Inc.	
OR-00176		1977	Desautels, Roger J.	Archaeological Survey Report on Lots 5 and 64 Located in the South Laguna Area of Orange County	Scientific Resource Surveys, Inc.	
OR-00194		1977	Desautels, Roger J.	Archaeological Survey Report on a Portion of Lot 1, Sec. 6, T7s, R8w, Sbb & M, Located at the Mouth of Aliso Creek in Orange County, California	Scientific Resource Surveys, Inc.	
OR-00255		1977	Anonymous	Archaeological Report on the Aliso Creek Corridor- Planning Units 2 & 3 Orange County, California	Scientific Resource Surveys, Inc.	30-000006, 30-000008, 30-000009, 30-000010, 30-000017, 30-000018, 30-000019, 30-000020, 30-000033, 30-000040, 30-000074, 30-000110, 30-000126, 30-000131, 30-000133, 30-000135, 30-000388, 30-000389, 30-000390, 30-000395, 30-000396, 30-000397, 30-000398, 30-000399, 30-000400, 30-000401, 30-000402, 30-000403, 30-000404, 30-000405, 30-000406, 30-000407, 30-000512, 30-000515, 30-000580
OR-00377		1979	Magalousis, Nicholas M.	Archaeological Survey Report	Interdisciplinary Research Group	30-000812, 30-000813, 30-000814

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-00431		1979		Aliso Viejo Cultural/scientific Resources Management Plan	Archaeological Resource Management Corp.	30-000019, 30-000064, 30-000126, 30-000388, 30-000389, 30-000390, 30-000395, 30-000396, 30-000397, 30-000398, 30-000399, 30-000400, 30-000401, 30-000402, 30-000403, 30-000404, 30-000405, 30-000406, 30-000407, 30-000408, 30-000409, 30-000410, 30-000411, 30-000412, 30-000413, 30-000414, 30-000415, 30-000416, 30-000417, 30-000418, 30-000419, 30-000420, 30-000421, 30-000422, 30-000425, 30-000582, 30-000703
OR-00432		1979	Anonymous	Archaeological Test Excavation of the Robert C. Dolley Property South Laguna	Interdisciplinary Research Group	30-000842
OR-00460		1979	Anonymous	Archaeological Test Excavation Report Site ORA-813 South Laguna	Interdisciplinary Research Grouph	30-000813
OR-00512		1935	Romero, John B.	Orange County, California, Indian Campsites		30-000001, 30-000002, 30-000003, 30-000004, 30-000005, 30-000006, 30-000007, 30-000008, 30-000009, 30-000010, 30-000011, 30-000012, 30-000013, 30-000014, 30-000015, 30-000016, 30-000017, 30-000018, 30-000019, 30-000020, 30-000021, 30-000022, 30-000023, 30-000024, 30-000025, 30-000026, 30-000027, 30-000028, 30-000029, 30-000030, 30-000280
OR-00549	Paleo -	1976	Singer, Clay A.	Archaeological Survey and Resource Assessment of a Portion of Laguna Niguel, Orange County, California	Archaeological Research, Inc.	30-000493, 30-000538, 30-000539, 30-000540
OR-00580		1977	Anonymous	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	Scientific Resource Surveys, Inc.	
OR-00628		1981	Desautels, Nancy A.	Archaeological/historical Report on Tt 11323 Located in the Three Arch Bay Community of South Laguna	Scientific Resource Surveys, Inc.	
OR-00641		1981	Anonymous	Archaeological Report - Volume 1 Executive Summary on Ora-436, Ora-437 Test and Salvage Excavation	Scientific Resource Surveys, Inc.	30-000436, 30-000437, 30-000814

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-00663		1983	Anonymous	Cultural Resources Report on the Proposed South Coast Community Hospital Extension, South Laguna	Scientific Resource Surveys, Inc.	
OR-00664		1983	Anonymous	Cultural Resource Report on Two Parcels of Land Located in the South Laguna Area	Scientific Resource Surveys, Inc.	30-000437
OR-00686		1983	Cottrell, Marie G.	Archaeological Assessment of the Ellis Residence Site of South Laguna Beach	Archaeological Resource Management Corp.	
OR-00705		1973	Anonymous	A Final Report on the Scientific Resources Survey for Moulton Ranch	Archaeological Research, Inc.	30-000013, 30-000411
OR-00735		1984	Bissell, Ronald M.	Report of Archaeological Survey Tentative Tracts 8735 and 9702 South Laguna, Orange County, California	RMW Paleo Associates, Inc.	30-000437
OR-00751		1976	Tadlock, Jean and W. Lewis Tadlock	Archaeological Element of an Environmental Impact Report for Tentative Tract Map No. 9440 North La Senda Drive		
OR-00822		1986	Cameron, Constance	Archaeological Investigations at Laguna Sur CA-ORA-813, CA-ORA-436, CA-ORA-437	Irvine Soils Engeneering	30-000436, 30-000437, 30-000813
OR-00938		1988	Bissell, Ronald M.	Status of Cultural Resources in the Wood Canyon Area, Southern Orange County, California	RMW Paleo Associates, Inc.	30-000006, 30-000013, 30-000019, 30-000020, 30-000126, 30-000133, 30-000177, 30-000266, 30-000388, 30-000389, 30-000390, 30-000395, 30-000396, 30-000397, 30-000398, 30-000399, 30-000400, 30-000401, 30-000402, 30-000403, 30-000404, 30-000405, 30-000406, 30-000407, 30-000412, 30-000413, 30-000415, 30-000418, 30-000422, 30-000423, 30-000424, 30-000427, 30-000436
OR-01013		1976	Carrico, Richard L.	Archaeological Testing at ORA-597 South Laguna Beach, California.	Westec Services, Inc.	30-000597
OR-01121		1991	Breece, William H.	Results of the Archaeological Study for the Binion Property, Laguna Niguel, Orange County, California.	LSA Associates, Inc.	30-000824
OR-01183		1991	Shinn, Juanita R.	A Cultural Resources Reconnaissance of the Hon Property O Approximately 60.9 Acres Located in Laguna Niguel, Orange County, California	RMW Paleo Associates, Inc.	
OR-01221		1992	Bissell, Ronald M.	Reconnaissance of a 22 Acre Parcel in Laguna Niguel, Orange County, California	RMW Paleo Associates, Inc.	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-01347		1977	Carrico, Richard L.	Draft Environmental Impact Report #288 Christeson-porter Tract Map, South Laguna Tt10027	Westec Services, Inc.	30-000597
OR-01797	Cellular -	1998	Brechbiel, Brant A.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: Cm 074-03 in the City of Laguna Beach, California	Chambers Group, Inc.	
OR-01922		1976	Anonymous	Final Report Archaeological Survey of the Aliso Creek Outfall Alignment	David D. Smith and Associates	
OR-01926		1977	Ezell, Paul H. and Carrico, Richard L.	Archaeological Survey Report of Aliso Water Management Agency Project Committees 7, 11-A and 15	Westec Service, Inc.	30-000009, 30-000074, 30-000109, 30-000280, 30-000281, 30-000285, 30-000286, 30-000334, 30-000335, 30-000576, 30-000577, 30-000578, 30-000583, 30-000596, 30-001683
OR-02289	Paleo -	1977	Unknown	Reports of the Archaeological and Paleontological Resources of the Esslinger Property South Laguna, Orange County, California	Ultra Systems, Inc.	
OR-02528	Cellular -	2002	Duke, Curt	Cultural Resource Assessment At&t Wirleless Services Facility No. 13330b, Orange County, California	LSA Associates, Inc.	
OR-02872		2002	Sinopoli, Cheryl	Historical Resources Compliance Report for the Relinquishment of a Segment of State Route 1 (pch) to the City of Dana Point From the Northern City Limits to San Juan Creek, in the City of Dana Po9int, Orange County, California	California Department of Transportation District 12	30-000011, 30-000012
OR-03014		2004	Hope, Andrew	Caltrans Statewide Historic Bridge Inventory Update Survey and Evaluation of Common Bridge Types	California Department of Transportation	30-176799
OR-03133		2004	McKenna, Jeanette A.	Cultural Resource Assessment Coast Highway Streetscape Improvements in South Laguna	McKenna et al.	19-000597, 19-000842, 30-000597
OR-03143		2005	Wlodarski, Robert J.	A Phase I Archaeological Study for 31691 Pacific Coast Highway South Laguna Beach, Orange County, California	Cellulear, Archaeological, Resource, Evaluations	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-03296		2006	O'Neil, Stephen, Corey, Christopher, and Sikes, Nancy E.	Cultural Resources Inventory and Evaluation for the Proposed Aliso Creek Inn and Golf Course Project, City of Laguna Beach, Orange County, California	SWCA Environmental Consultants, Inc.	30-000006, 30-000008, 30-000009, 30-000074, 30-000395, 30-000396, 30-000397, 30-000398, 30-000583
OR-03507		2006	McKenna, Jeanette A.	Historic Survey Report for the City of Laguna Beach Street Scape Improvements	McKenna et al.	30-000842
OR-03960	Cellular -	2011	Wlodarski, Robert J.	Records Search and Field Reconnaissance for Proposed AT&T Wireless Telecommunications Site LAC288 (South Laguna), 31642 Coast Hwy., Laguna Beach, California.	Cellular, Archaeological Resource Evaluations	30-000597, 30-000812, 30-000813, 30-000842
OR-04026		2007	McKenna, Jeanette A.	Archaeological Survey Report: South Laguna Coast Highway Improvements Project, Coast Highway Between West Street to 5th Avenue, City of South Laguna, Orange County, California	McKenna et al.	30-000842
OR-04082		1987	Pierson, Larry, Shiner, Gerald, and Slater, Richard	California Outer Continental Shelf, Archaeological Resource Study: Morro Bay to Mexican Border, Final Report	PS Associates	
OR-04179		2008	unknown	Laguna Beach Historic Resources Inventory	City of Laguna Beach	30-157939
OR-04459		2014	Bonner, Diane, Wills,Carrie, and Crawford, Kathleen	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate LA02074A (CM074 S Coast Medical Center) 31872 Coast Highway, Laguna Beach, Orange County, California	EAS	30-000437, 30-000597, 30-000812, 30-000813, 30-000842, 30-160147, 30-160186
OR-04476		2014	Brunzell, Dave	Cultural Resources Assessment Tunnel Stabilization and Sewer Pipeline Replacement Project South Laguna Beach, Orange County, California	BCR Consulting	30-000008, 30-000009, 30-000010, 30-000011, 30-000074, 30-000127, 30-000437, 30-000583, 30-000597, 30-000812, 30-000813, 30-000814, 30-000842, 30-001060, 30-001713, 30-160186, 30-176779, 30-177512, 30-177513

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-30-000009	CA-ORA-000009	Resource Name - Romero's Camp Number 9; Other - CAMP 9 OCAS	Site	Prehistoric	AP02; AP16	1949; 1966 (CHACE)	OR-00255, OR-00512, OR-01926, OR-01995, OR-03296, OR-03398, OR-04476
P-30-000437	CA-ORA-000437		Site	Prehistoric	AP02; AP15	1973 (Fenenga, G. & T. Cooley, Archaeological Research, Inc); 1981	OR-00641, OR-00664, OR-00735, OR-00822, OR-01995, OR-04249, OR-04409, OR-04459, OR-04476
P-30-000583	CA-ORA-000583	Resource Name - Site 5	Site	Prehistoric	AP14; AP15	1975 (Leonard, N.)	OR-01926, OR-01995, OR-03296, OR-04305, OR-04306, OR-04476
P-30-000597	CA-ORA-000597		Site	Prehistoric	AP02; AP08; AP11; AP15	1976 (Drover, C.E.); 2014 (David Brunzell, BCR Consulting)	OR-01013, OR-01347, OR-01995, OR-03133, OR-03960, OR-04459, OR-04476
P-30-000812	CA-ORA-000812	Resource Name - Temporary Field No. 11	Site	Prehistoric	AP02; AP14; AP15	1979 (MAGALOUSIS); 1979 (Magalousis, Nicholas M., Interdisciplinary Research Group)	OR-00377, OR-03960, OR-04459, OR-04476
P-30-000813	CA-ORA-000813	Resource Name - Temporary Field No. 12	Site	Prehistoric	AP02; AP15	1979 (MAGALOUSIS); 1979 (MAGALOUSIS); 1986 (Constance Cameron, Irvine Soils Engeneering)	OR-00377, OR-00460, OR-00822, OR-03960, OR-04459, OR-04476
P-30-000842	CA-ORA-000842	Resource Name - SL-14; Other - SRS-SL-1	Site	Prehistoric	AP02; AP15	1979 (Magalousis, Nicholas); 1979 (Roeder; Zelenka, Scientific Resource Surveys, Inc.); 2004 (Baker, Charles, Caltrans District 12); 2018 (Ivan Strudwick, LSA)	OR-00432, OR-03507, OR-03960, OR-04026, OR-04459, OR-04476
P-30-001060	CA-ORA-001060	Resource Name - Craig Site	Site	Prehistoric	AP02; AP15	1976 (Lewis; Tadlock)	OR-03840, OR-04476
P-30-001775	CA-ORA-001775	Resource Name - LSA-LBG1501-KA-S-1	Site	Prehistoric	AP15	2016 (Kerrie Absher, LSA)	

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-30-160147		OHP Property Number - 039516; Resource Name - South Laguna Commercial Bldgs District, Three Arches; Other - South Laguna Commercial Bldgs; Other - zip 92651; Other - Three Arches	District	Historic	HP05; HP06	1981 (K. Turnbull, Environmental Coalitition)	OR-04459
P-30-160186		OHP Property Number - 039555; Resource Name - South Laguna District, Three Arches; Other - zip 92651; Other - South Laguna; Other - Three Arches	District	Historic	HP02	1981 (Turnbull, Karen, Environmental Coalition)	OR-04459, OR-04476
P-30-176779		OHP Property Number - 037949; Resource Name - Aliso Creek Bridge; Other - Bridge 55-0003	Structure	Historic	HP19	2006 (A. Hope, Caltrans)	OR-03398, OR-04476
P-30-177513		Resource Name - South Coast Water District Beach (SCWD) Interceptor Sewer and Tunnel	Structure	Historic	HP39	2014 (David Brunzell, BCR Consulting)	OR-04476

Attachment 3

Sacred Lands File Search

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
Marshall McKay
Wintun

COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[**Vacant**]

COMMISSIONER
[**Vacant**]

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

October 19, 2020

Courtney Montgomery
Rincon Consultants, Inc.

Via Email to: cmontgomery@rinconconsultants.com

Re: Reservoir 2B and 3B Replacement Project, Orange County

Dear Ms. Montgomery:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the Juaneno Band of Mission Indians and the Juaneno Band of Mission Indians Acjachemen Nation - Belardes on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Appendix E

Energy Calculations

SCWD Reservoir 2B Replacement Project

Last Updated: December 27, 2021

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Aerial Lifts	1	8	63	0.31	Demolition Phase	46
Air Compressors	2	8	78	0.48	Demolition Phase	176
Concrete/Industrial Saws	1	8	81	0.73	Demolition Phase	139
Excavators	1	8	158	0.38	Demolition Phase	127
Rough Terrain Forklifts	1	8	100	0.4	Demolition Phase	94
Skid Steer Loaders	1	8	65	0.37	Demolition Phase	57
Tractors/Loaders/Backhoes	1	8	97	0.37	Demolition Phase	84
Concrete/Industrial Saws	1	8	81	0.73	Site Preparation Phase	778
Graders	1	8	187	0.41	Site Preparation Phase	908
Plate Compactors	1	8	8	0.43	Site Preparation Phase	45
Rubber Tired Dozers	1	7	247	0.4	Site Preparation Phase	1,024
Rubber Tired Loaders	1	8	203	0.36	Site Preparation Phase	865
Skid Steer Loaders	1	8	65	0.37	Site Preparation Phase	317
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation Phase	472
Bore/Drill Rigs	1	8	221	0.5	Grading Phase	467
Cement and Mortar Mixers	1	8	9	0.56	Grading Phase	24
Excavators	1	8	158	0.38	Grading Phase	254
Plate Compactors	1	8	8	0.43	Grading Phase	16
Rough Terrain Forklifts	1	8	100	0.4	Grading Phase	188
Rubber Tired Dozers	1	8	247	0.4	Grading Phase	418
Rubber Tired Loaders	1	8	203	0.36	Grading Phase	309
Skid Steer Loaders	1	8	65	0.37	Grading Phase	113
Tractors/Loaders/Backhoes	1	7	97	0.37	Grading Phase	148
Aerial Lifts	1	4	63	0.31	Tank Installation Phase	459
Air Compressors	2	8	78	0.48	Tank Installation Phase	3,520
Cement and Mortar Mixers	1	8	9	0.56	Tank Installation Phase	237
Cranes	1	6	231	0.29	Tank Installation Phase	2,125
Plate Compactors	1	8	8	0.43	Tank Installation Phase	162
Rough Terrain Forklifts	1	6	100	0.4	Tank Installation Phase	1,410
Tractors/Loaders/Backhoes	1	6	97	0.37	Tank Installation Phase	1,265
Welders	3	8	46	0.45	Tank Installation Phase	2,919
Rough Terrain Forklifts	1	8	100	0.4	Site Restoration Phase	244
Skid Steer Loaders	1	8	65	0.37	Site Restoration Phase	147
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Restoration Phase	219
					Total Fuel Used	**19,777**
						(Gallons)

Construction Phase	Days of Operation
Demolition Phase	5
Site Preparation Phase	28
Grading Phase	10
Tank Installation Phase	100
Site Restoration Phase	13
Total Days	156

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition Phase	24.1	20	14.7	61.00
Site Preparation Phase	24.1	18	14.7	307.42
Grading Phase	24.1	23	14.7	140.29
Tank Installation Phase	24.1	19	14.7	1158.92
Site Restoration Phase	24.1	8	14.7	63.44
			Fuel	**1,731.06**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition Phase	7.5	30	20.0	80.00
Site Preparation Phase	7.5	23	20.0	61.33
Grading Phase	7.5	0	20.0	0.00
Tank Installation Phase	7.5	0	20.0	0.00
Site Restoration Phase	7.5	0	20.0	0.00
			Fuel	**141.33**
VENDOR TRIPS				
Demolition Phase	7.5	0	14.7	0.00
Site Preparation Phase	7.5	0	14.7	0.00
Grading Phase	7.5	0	14.7	0.00
Tank Installation Phase	7.5	0	14.7	0.00
Site Restoration Phase	7.5	8	14.7	203.84
			Fuel	**203.84**

Total Gasoline Consumption (gallons)	**1,731**
Total Diesel Consumption (gallons)	**20,122**

Sources:

[1] United States Environmental Protection Agency. 2021. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2* . September. Available at: https://www.epa.gov/system/files/documents/2021-08/420r21021.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2021. *National Transportation Statistics* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Appendix F

Noise Modeling

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/28/2021
Case Description: Reservoir 2B - Demolition

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residential	Residential	65.0	45.0	45.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	470.0	0.0
Front End Loader	No	40		79.1	470.0	0.0
Concrete Saw	No	20		89.6	470.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Excavator	61.2	57.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	59.6	55.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	70.1	63.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	70.1	64.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/28/2021
Case Description: Reservoir 2B - Site Preparation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residential	Residential	65.0	45.0	45.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Auger Drill Rig	No	20		84.4	470.0	0.0
Dozer	No	40		81.7	470.0	0.0
Front End Loader	No	40		79.1	470.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Auger Drill Rig	64.9	57.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	62.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	59.6	55.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	64.9	62.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/28/2021
Case Description: Reservoir 2B - Grading

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residential	Residential	65.0	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compactor (ground)	No	20		83.2	115.0	0.0
Dozer	No	40		81.7	115.0	0.0
Grader	No	40	85.0		115.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening

Equipment	Night Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq
Compactor (ground)	76.0	69.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	74.4	70.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	77.8	73.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.8	76.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/28/2021
Case Description: Reservoir 2B - Tank Installation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residential	Residential	65.0	45.0	45.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compactor (ground)	No	20		83.2	470.0	0.0
Compressor (air)	No	40		77.7	470.0	0.0
Compressor (air)	No	40		77.7	470.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Compactor (ground)	63.8	56.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	58.2	54.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	58.2	54.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	63.8	60.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/28/2021
Case Description: Reservoir 2B - Site Restoration

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residential	Residential	65.0	45.0	45.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	470.0	0.0
Front End Loader	No	40		79.1	470.0	0.0
Backhoe	No	40		77.6	470.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Man Lift	55.2	48.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	59.6	55.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	58.1	54.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	59.6	58.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Groundborne Noise and Vibration Modeling

Notes
The reference distance is measured from the nearest anticipated point of construction equipment to the nearest structure.

	Reference Level Inputs			
Equipment	**PPV_{ref} (in/sec)**	**Lv_{ref} (VdB)**	**RMS_{ref} (in/sec)**	**Reference Distance**
Vibratory Roller	0.21	94	0.050	25
Large bulldozer	0.089	87	0.022	25
Loaded trucks	0.076	83	0.014	25
Small bulldozer	0.003	58	0.001	25

	Vibration Level at Receiver			
Equipment	**Distance (feet)**	**PPV_x (in/sec)**	**Lv_x (VdB)**	**RMS_x (in/sec)**
Large bulldozer	35	0.0615	84	0.015
Loaded trucks	15	0.1333	88	0.025
Small bulldozer	35	0.0021	55	0.001

Source
California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-20-365.01.01). April. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf. Last Updated: 10/19/2020

Appendix G

AB 52 Letters

SOUTH COAST
WATER DISTRICT
Partnering With The Community

Board of Directors

Rick Erkeneff
President

Bill Green
Vice President

Scott Goldman
Director

Doug Erdman
Director

Wayne Rayfield
Director

November 15, 2021

Gabrieleño Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393
Covina, California 91723
Via email: admin@gabrielenoindians.org

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Chairperson Salas:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Gabrieleño Band of Mission Indians - Kizh Nation is important to SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

Enclosure: Project Location Map

Mailing Address: *P.O. Box 30205, Laguna Niguel, CA 92607-0205*
Street Address: *31592 West Street, Laguna Beach, CA 92651*
Phone: *(949) 499-4555* ***Fax:*** *(949) 499-4256*

SOUTH COAST WATER DISTRICT

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President

Bill Green
Vice President

Scott Goldman
Director

Doug Erdman
Director

Wayne Rayfield
Director

November 15, 2021

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, California 91778
Via email: GTTribalcouncil@aol.com

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Chairperson Morales:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

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The input of the Gabrieleno/Tongva San Gabriel Band of Mission Indians is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

Enclosure: Project Location Map

Mailing Address: *P.O. Box 30205, Laguna Niguel, CA 92607-0205*
Street Address: *31592 West Street, Laguna Beach, CA 92651*
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President

Bill Green
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Director

Doug Erdman
Director

Wayne Rayfield
Director

November 15, 2021

Gabrielino/Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso Street, #231
Los Angeles, California 90012
Via email: sgoad@gabrielino-tongva.com

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Chairperson Goad:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Gabrielino/Tongva Nation is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

Enclosure: Project Location Map

Mailing Address: *P.O. Box 30205, Laguna Niguel, CA 92607-0205*
Street Address: *31592 West Street, Laguna Beach, CA 92651*
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President

Bill Green
Vice President

Scott Goldman
Director

Doug Erdman
Director

Wayne Rayfield
Director

November 15, 2021

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490
Bellflower, California 90707
Via email: gtongva@gmail.com

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Chairperson Dorame:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Gabrielino Tongva Indians of California Tribal Council is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

Enclosure: Project Location Map

Mailing Address: *P.O. Box 30205, Laguna Niguel, CA 92607-0205*
Street Address: *31592 West Street, Laguna Beach, CA 92651*
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President

Bill Green
Vice President

Scott Goldman
Director

Doug Erdman
Director

Wayne Rayfield
Director

November 15, 2021

Gabrielino-Tongva Tribe
Charles Alvarez
23454 Vanowen Street
West Hills, California 91307
Via email: roadkingcharles@aol.com

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Mr. Alvarez:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

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The input of the Gabrielino-Tongva Tribe is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

Enclosure: Project Location Map

Mailing Address: *P.O. Box 30205, Laguna Niguel, CA 92607-0205*
Street Address: *31592 West Street, Laguna Beach, CA 92651*
Phone: *(949) 499-4555* ***Fax:*** *(949) 499-4256*

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President

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Vice President

Scott Goldman
Director

Doug Erdman
Director

Wayne Rayfield
Director

November 15, 2021

Juaneño Band of Mission Indians
Sonia Johnston, Chairperson
P.O. Box 25628
Santa Ana, California 92799
Via email: sonia.johnston@sbcglobal.net

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Chairperson Johnston:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

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The input of the Juaneño Band of Mission Indians is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

Enclosure: Project Location Map

Mailing Address: *P.O. Box 30205, Laguna Niguel, CA 92607-0205*
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Bill Green
Vice President

Scott Goldman
Director

Doug Erdman
Director

Wayne Rayfield
Director

November 15, 2021

Juaneño Band of Mission Indians Acjachemen Nation - Belardes
Matias Belardes, Chairperson
32161 Avenida Los Amigos
San Juan Capistrano, California 92675
Via email: kaamalam@gmail.com

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Chairperson Belardes:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

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The input of the Juaneño Band of Mission Indians Acjachemen Nation - Belardes is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

Enclosure: Project Location Map

Mailing Address: *P.O. Box 30205, Laguna Niguel, CA 92607-0205*
Street Address: *31592 West Street, Laguna Beach, CA 92651*
Phone: *(949) 499-4555* ***Fax:*** *(949) 499-4256*

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President

Bill Green
Vice President

Scott Goldman
Director

Doug Erdman
Director

Wayne Rayfield
Director

November 15, 2021

Juaneño Band of Mission Indians Acjachemen Nation - Belardes
Joyce Perry, Tribal Manager
4955 Paseo Segovia
Irvine, California 92603
Via email: kaamalam@gmail.com

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Ms. Perry:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

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The input of the Juaneño Band of Mission Indians Acjachemen Nation – Belardes is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

Enclosure: Project Location Map

Mailing Address: *P.O. Box 30205, Laguna Niguel, CA 92607-0205*
Street Address: *31592 West Street, Laguna Beach, CA 92651*
Phone: *(949) 499-4555* ***Fax:*** *(949) 499-4256*

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Rick Erkeneff
President

Bill Green
Vice President

Scott Goldman
Director

Doug Erdman
Director

Wayne Rayfield
Director

November 15, 2021

Juaneño Band of Mission Indians Acjachemen Nation - Romero
Teresa Romero, Chairperson
31411-A La Matanza Street
San Juan Capistrano, California 92675
Via email: tromero@juaneno.com

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Chairperson Romero:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

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The input of the Juaneño Band of Mission Indians Acjachemen Nation – Romero is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

Enclosure: Project Location Map

Mailing Address: *P.O. Box 30205, Laguna Niguel, CA 92607-0205*
Street Address: *31592 West Street, Laguna Beach, CA 92651*
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President

Bill Green
Vice President

Scott Goldman
Director

Doug Erdman
Director

Wayne Rayfield
Director

November 15, 2021

Juaneño Band of Mission Indians Acjachemen Nation - Romero
Heidi Lucero, Cultural Resources Director
31411-A La Matanza Street
San Juan Capistrano, California 92675
Via email: sos@juaneno.com

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Ms. Lucero:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

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The input of the Juaneño Band of Mission Indians Acjachemen Nation - Romero is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

Enclosure: Project Location Map

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President

Bill Green
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Scott Goldman
Director

Doug Erdman
Director

Wayne Rayfield
Director

November 15, 2021

La Jolla Band of Luiseño Indians
Fred Nelson, Chairperson
22000 Highway 76
Pauma Valley, California 92061

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Chairperson Nelson:

The South Coast Water District (District) is preparing an Initial Study for the proposed Reservoir 2B The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the La Jolla Band of Luiseño Indians is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

Enclosure: Project Location Map

Mailing Address: *P.O. Box 30205, Laguna Niguel, CA 92607-0205*
Street Address: *31592 West Street, Laguna Beach, CA 92651*
Phone: *(949) 499-4555* ***Fax:*** *(949) 499-4256*

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November 15, 2021

Pala Band of Mission Indians
Shasta Gaughen, Tribal Historic Preservation Officer
PMB 50, 35008 Pala Temecula Road
Pala, California 92059
Via email: sgaughen@palatribe.com

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Ms. Gaughen:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

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The input of the Pala Band of Mission Indians is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

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November 15, 2021

Pauma Band of Luiseño Indians
Temet Aguilar, Chairperson
P.O. Box 369
Pauma Valley, California 92061
Via email: bennaecalac@aol.com

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Chairperson Aguilar:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Pauma Band of Luiseño Indians is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

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November 15, 2021

San Luis Rey Band of Mission Indians
San Luis Rey Tribal Council
1889 Sunset Drive
Vista, California 92081
Via email: cjmojado@slrmissionindians.org

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear San Luis Rey Tribal Council:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the San Luis Rey Band of Mission Indians is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

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Director

Wayne Rayfield
Director

November 15, 2021

Santa Rosa Band of Cahuilla Indians
Lovina Redner, Tribal Chair
P.O. Box 391820
Anza, California 92539
Via email: lsaul@santarosa-nsn.gov

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Tribal Chair Redner:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

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The input of the Santa Rosa Band of Cahuilla Indians is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

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Doug Erdman
Director

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Director

November 15, 2021

Soboba Band of Luiseño Indians
Joseph Ontiveros, Cultural Resource Department
P.O. Box 487
San Jacinto, California 92581
Via email: jontiveros@soboba-nsn.gov

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Mr. Ontiveros:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

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The input of the Soboba Band of Luiseño Indians is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

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Doug Erdman
Director

Wayne Rayfield
Director

November 15, 2021

Soboba Band of Luiseño Indians
Scott Cozart, Chairperson
P.O. Box 487
San Jacinto, California 92583
Via email: jontiveros@soboba-nsn.gov

RE: Assembly Bill 52 Consultation, South Coast Water District Reservoir 2B Replacement Project, Laguna Beach, Orange County, California

Dear Chairperson Cozart:

The South Coast Water District (SCWD) is preparing an Initial Study for the proposed Reservoir 2B Replacement Project. The proposed project consists of the demolition of the existing 0.1-million-gallon reservoir (approximately 30 feet in diameter) and the construction of two new 0.1-million-gallon reservoirs (each approximately 33 feet in diameter) on the same project site (see attached map). The proposed project is subject to the California Environmental Quality Act.

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The input of the Soboba Band of Luiseño Indians is important to the SCWD's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (949) 342-1154 or via e-mail at tkjolsing@scwd.org. Thank you for your assistance.

Sincerely,

Taryn Kjolsing, P.E.
Engineering Manager
South Coast Water District

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