RECON

Draft
Initial Study/Environmental Checklist and Mitigated Negative Declaration for the Failsafe Outfall and Emergency Bypass Pipeline Phase II Project Carlsbad, California

Prepared for
Vallecitos Water District
201 Vallecitos De Oro
San Marcos, CA 92069

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RECON Number 9725-2
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1.0 Introduction

1.1 Vallecitos Water District

The Vallecitos Water District (VWD or District) provides potable, wastewater, and reclaimed water services within northern San Diego County, including service to the city of San Marcos; parts of the cities of Carlsbad, Escondido, and Vista; and unincorporated areas in north San Diego County. In addition, the District wholesales recycled water to the City of Carlsbad (City) and the Olivenhain Municipal Water District. Originally founded as the San Marcos County Water District in 1955 by a group of local citizens to answer the shrinking water table in the San Marcos and Twin Oaks valleys, the District was formed in accordance with Division 12 of the Water Code (sections 30000-33901 et seq.) to provide imported water from northern California and the Colorado River. Today, the District currently serves a population of more than 103,000 within its 45-square-mile boundary.

1.2 Purpose of the Initial Study/Mitigated Negative Declaration

This document is a Draft Initial Study/Mitigated Negative Declaration (IS/MND) for evaluation of environmental impacts resulting from implementation of the VWD's Failsafe Outfall and Emergency Bypass Pipeline Phase II Project (project or proposed project) and has been prepared in accordance with the following:

- California Environmental Quality Act (CEQA) of 1970 (Public Resources Code Sections 21000 et seq.); and
- California Code of Regulations, Title 14, Division 6, Chapter 3 (State CEQA Guidelines, Sections 15000 et seq.).

The purpose of the IS/MND is to determine if any potentially significant impacts are associated with the project and to incorporate mitigation measures into its design, as necessary, to reduce or eliminate the significant or potentially significant effects of the project. A "significant effect" or "significant impact" on the environment means "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (Guidelines§15382). As such, the VWD's intent is to adhere to the following CEQA principles:

- Provide meaningful early evaluation of site planning constraints, service and infrastructure requirements, and other local and regional environmental considerations. (Pub. Res. Code §21003.1);
- Encourage the applicant to incorporate environmental considerations into project conceptualization, design, and planning at the earliest feasible time. (State CEQA Guidelines §15004[b][3]); and
- Specify mitigation measures for reasonably foreseeable significant environmental effects and commit to future measures containing performance standards to ensure their adequacy when detailed development plans and applications are submitted. (State CEQA Guidelines §15126.4).

1.3 CEQA Authority to Prepare a Mitigated Negative Declaration

The VWD is responsible for the review and approval of the project and is also acting as the lead agency for the implementation of the California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000 et seq.) for the project, as necessary and appropriate. As is true for the project, a Mitigated Negative Declaration (MND) may be prepared where the Initial Study revealed one or more potentially significant effects on the environment – which may result from the project, but subsequent revisions to the project would avoid the effects or mitigate the source to a less than significant level. A MND can simplify the CEQA process while ensuring that potentially significant effects are avoided or mitigated to a less than significant level (See California Public Resources Code Section 21064.5). This MND has been prepared in accordance with CEQA, the CEQA Guidelines (California Code of Regulations Section 15000 et seq.), and relevant case law; and it incorporates all the project revisions mitigating any environmental effects to a less than significant level.

VWD is the lead agency as it is the public agency with the primary responsibility for preparing environmental documents and for approving, constructing, and operating the project. VWD is organized in accordance with the provisions of the County Water District Law (California Water Code Section 30000 et seq.) for the purpose of providing domestic water supplies. VWD is empowered to plan, construct, operate, maintain, repair, and replace water system facilities as needed to provide water service in compliance with applicable standards and regulations. Additionally, pursuant to California Water Code Section 31149.7, VWD is empowered to "provide, generate, and deliver electric power and may construct, operate, and maintain any and all works, facilities, improvements, and property, or portions thereof necessary or convenient for that generation and delivery." The VWD routinely plans and constructs new facilities, maintains them, and replaces them as necessary to maintain adequate, reliable, and safe water service for its customers. The project is a continuation of the authority that VWD has exercised in the past.

2.0 Draft Mitigated Negative Declaration

Project Name: Failsafe Outfall and Emergency Bypass Pipeline Phase II Project

Project Location: The project is located between Melrose Drive and Paseo Privado in the city of Carlsbad (Figures 1 through 3). It is situated within Sections 19 and 20, Township 12 South, Range 3 West on the U.S. Geological Survey (USGS) 7.5-minute Rancho Santa Fe quadrangle (see Figure 2). The project is located along a District easement (project site) situated primarily on a graded fill slope that was manufactured in association with the adjacent developments and roads. The land to the north and east of the project location is otherwise undeveloped (see Figure 3).

Project Description: The District is proposing to rehabilitate approximately 1,060 feet of existing 16-inch reinforced plastic mortar sewer pipeline with a cured-in-place-pipe liner, replace necessary control valves and appurtenances to operate the line, and provide new access locations at incremental lengths along the alignment. The pipeline would be accessed by digging two access pits: one within Melrose Drive and the adjacent parking lot, and one within the District easement approximately 65 feet east of Melrose Drive. Equipment, vehicles, and personnel would access the work area from Melrose Drive and the existing paved access road that runs from Melrose Drive to Paseo Privado. Equipment staging would occur within the graded access road south of the District easement. Minor grading may be required to reach to the eastern access pit from the graded access road. Any spoils would be stored within existing disturbed or developed areas, or within the District's easement and access road, located uphill from the access pits.

Appropriate best management practices (BMPs), including orange construction fencing, silt fencing, fiber rolls, and other measures, would be installed to prevent erosion and sedimentation into the surrounding areas and limit impacts to the approved work areas.

DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial evaluation:

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

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

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

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

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

Findings: Pursuant to the provisions of CEQA (Public Resources Code, Section 21000 et seq.) and based on information contained in the attached IS Checklist, the District has determined that the project will not have a significant effect on the environment.

Michael L. Page

Signature of Lead Agency Representative

10/12/21

Date

3.0 Project Description

1. Project:

Failsafe Outfall and Emergency Bypass Pipeline Phase II Project

2. Lead Agency:

Vallecitos Water District
201 Vallecitos De Oro
San Marcos, CA 92069

3. Contact Person and Phone Number:

Mr. Ryan Morgan, P.E.
Capital Facilities Senior Engineer
Vallecitos Water District
rmorgan@vwd.org
760-752-7132

4. Project Location:

The project is located between Melrose Drive and Paseo Privado in the City of Carlsbad (Figures 1 through 3). It is situated within Sections 19 and 20, Township 12 South, Range 3 West on the USGS 7.5-minute Rancho Santa Fe quadrangle (see Figure 2). The project is located along a District easement situated primarily on a graded fill slope that was manufactured in association with the adjacent developments and roads. The land to the north and east of the project location is otherwise undeveloped (see Figure 3).

5. Project Applicant/Sponsor:

Vallecitos Water District
201 Vallecitos De Oro
San Marcos, CA 92069

6. General Plan Designation:

OS Open Space (City of Carlsbad)

7. Zoning:

P-C Planned Community Zone (City of Carlsbad)

8. Description of Project:

The District is proposing to rehabilitate approximately 1,060 feet of existing 16-inch reinforced plastic mortar sewer pipeline with a cured-in-place-pipe liner, replace necessary control valves and appurtenances to operate the line, and provide new access locations at incremental lengths along the alignment. The pipeline would be accessed by digging two access pits: one within Melrose Drive and the adjacent parking lot, and one within the District easement approximately 65 feet east of Melrose Drive. Equipment, vehicles, and personnel would access the work area from Melrose Drive and the existing paved access road that runs from Melrose Drive to Paseo Privado. Equipment staging would occur within the graded access road south of the District easement. Minor grading may be required to reach the eastern access pit from the graded access road. Any spoils would be stored within existing disturbed or developed areas, or within the District easement, uphill from the access pits.

Appropriate BMPs, including orange construction fencing, silt fencing, fiber rolls, and other measures, would be installed to prevent erosion and sedimentation into the surrounding areas and limit impacts to the approved work areas.

9. Surrounding Land Use(s) and Project Setting:

The project is located between Melrose Drive and Paseo Privado in the City of Carlsbad. The project is located along a District easement situated primarily on a graded fill slope that was manufactured in association with the adjacent developments and roads. Surrounding land uses include residential homes to the south and northeast, Paseo Privado to the east, Melrose Drive to the west, and open space to the north.

10. Other Required Agency Approvals or Permits Required:

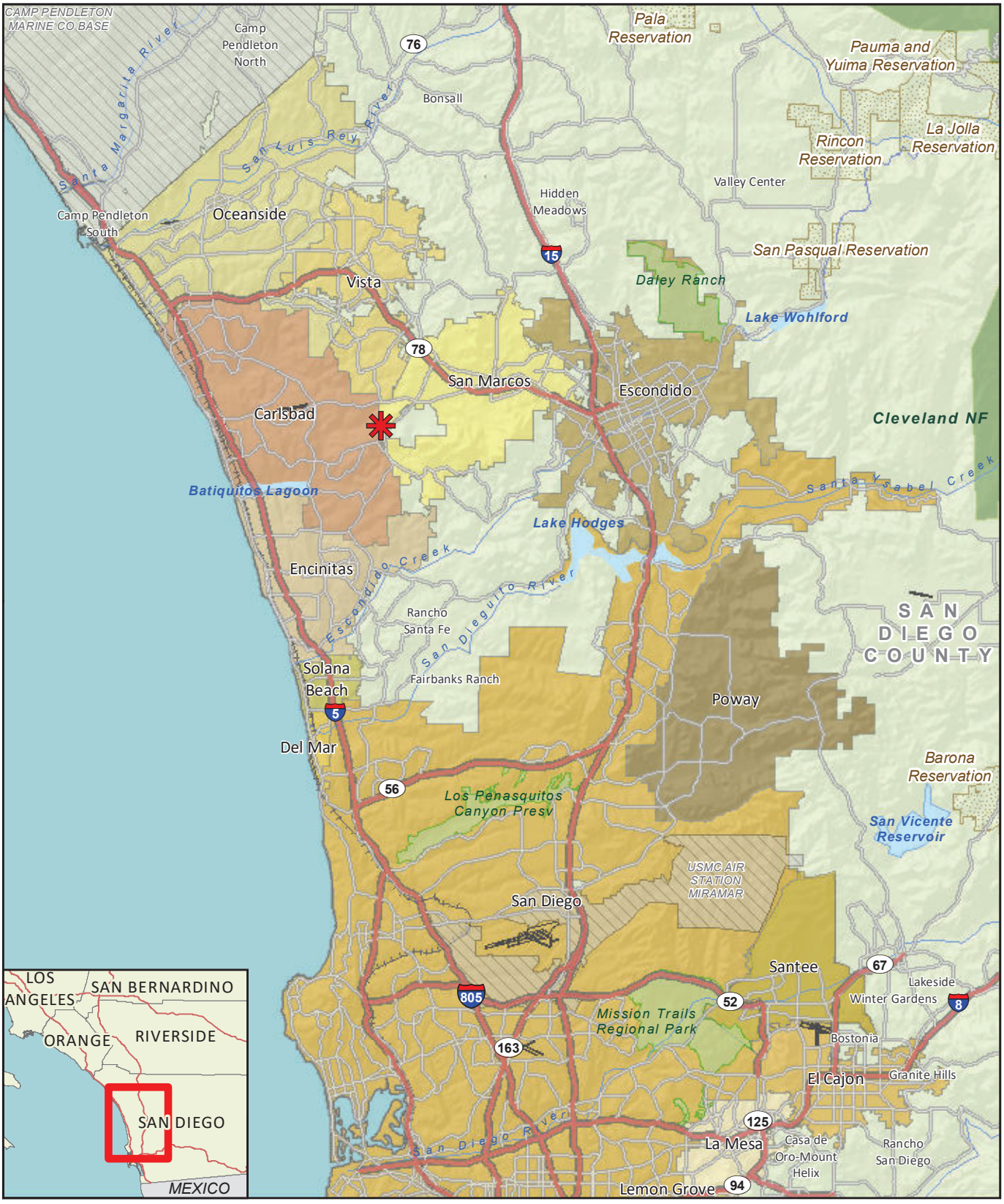
City of Carlsbad approval would be required for temporary construction easements outside of the District's easement and within City of Carlsbad open space.

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

A letter was sent to the Native American Heritage Commission (NAHC) on September 29, 2020 requesting them to search their files to identify spiritually significant and/or sacred sites or traditional use areas in the project parcel vicinity. On October 6, 2020 RECON received a response stating that a record search of the NAHC Sacred Lands File was completed and results were negative (see Appendix C).

12. Summary of Environmental Factors Potentially Affected:

☐ 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



Project Location

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FIGURE 1
Regional Location

Map Source: USGS 7.5 minute topographic map series, Rancho Santa Fe quadrangle, 1996, T12S R03W

Project Area

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FIGURE 2
Project Location on USGS Map

Image Source: NearMap (flown April 2021)

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FIGURE 3
Project Location on Aerial Photograph

4.0 Initial Study Checklist

EVALUATION OF ENVIRONMENTAL IMPACTS:

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

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

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

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

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

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

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

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

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared

or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

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

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

9. The explanation of each issue should identify:

    a. the significance criteria or threshold, if any, used to evaluate each question; and

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

4.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

EXPLANATIONS:

a: Less Than Significant Impact

As stated in the City of Carlsbad General Plan Final EIR (2015), scenic vistas in Carlsbad consist of the scenic corridors and views to and from the coastline, open spaces, and hillsides. Project construction would occur along the edge of an open space area, but would be temporary in nature and surfaces would be restored to pre-construction conditions. Therefore, potential impacts to scenic vistas would be less than significant.

b. No Impact

There are no scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within the project site. Additionally, there are no designated scenic highways in the City. Therefore, the project would not impact scenic resources.

c. No Impact

The project is located adjacent to a residential development and open space and is not visible from any publicly accessible vantage point. Project construction impacts would be temporary in nature and surfaces would be restored to pre-construction conditions; upon completion of the project there would be no change to the visual character of the project site. Therefore, the project would not degrade the existing visual character or quality of public views and no impacts would occur.

d. No Impact

The project would not create any new source of light or glare. Construction activities are expected to be conducted during daylight hours. Upon completion of the project, there would be no change to the existing conditions relating to light and glare as the pipeline would remain underground and no lighting would be required. Therefore, no impacts would occur.

4.2 Agriculture and Forestry Resources

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 1220[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?	☐	☐	☐	☒

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

EXPLANATIONS:

a-e. No Impact

The project site is designated as Urban and Built-Up Land and Other Land by the California Department of Conservation Farmland Mapping and Monitoring Program (2016). There is no Farmland of Local Importance, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in the project site (California Department of Conservation 2016). There is no designated forest land or timberland land within the District's easement. Therefore, there would be no conflict with zoning or loss or conversion of forest land or timberland. No impacts to agricultural and forestry resources would occur and no mitigation is required.

4.3 Air Quality

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

EXPLANATIONS:

This section addresses air emissions generated during construction. As a pipeline construction project, the project would involve only construction air emissions impacts. There would be no change in the operational impacts to air quality, which are minimal related to ongoing maintenance activities.

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

Existing Climate and Air Quality

The San Diego region's climate is characterized by dry, warm summers and mild, occasionally wet winters. The region experiences an average temperature range from the mid-40s to the high 90s (degrees Fahrenheit). Approximately 90 percent of the region's precipitation falls from November to April, with an average seasonal precipitation at the coast of approximately 10 inches. Precipitation generally increases towards the mountains and high elevations.

The local topography and coastal influence affects the dispersal and movement of pollutants in the basin. Topography in the region ranges from desert and mountains in the east to beaches and coastal areas in the west. Pollutant dispersal can be impeded by the mountains, which help trap them in inversion layers. Prevailing wind patterns are westerly to northwesterly, and inland winds can blow through the valleys during the day and down the hills and valleys at night.

The project is in the SDAB, which is under the authority of the San Diego Air Pollution Control District (SDAPCD). The SDAB covers 4,260 square miles, which comprises the entire San Diego region and is contiguous with the County boundary. During warmer months, temperature subsidence inversions occur as descending air associated with the Pacific High Pressure Zone encounters air cooled by the ocean, trapping pollutants. A shallow inversion layer can form on cooler nights due to radiation inversion, which can also trap pollutants. Pollutants can become concentrated in the inversion layers allowing for photochemical reactions which produce O_3, or smog. The SDAB is currently classified as a federal marginal nonattainment area for O_3 and a state nonattainment area for PM_{10}, $PM_{2.5}$, and O_3 (County of San Diego 2007).

The SDAPCD maintains a network of air quality monitoring stations located throughout the SDAB. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS). The closest to the project site with the most complete monitoring data is the Mira Costa College station in Del Mar, which measures O_3, $PM_{2.5}$, PM_{10}, NO_2, and CO.

Air Quality Standards

The project site is located within the City. The City has not adopted thresholds of significance for evaluating air quality impacts; therefore, this analysis relies on thresholds established by the County of San Diego. The relevant air quality standards are the County of San Diego air quality screening level thresholds (County of San Diego 2007), which are part of its Guidelines for Determining Significance and Report Format and Content Requirements – Air Quality. The thresholds for criteria pollutants are presented in Table 1. Note that the terms reactive organic gases (ROG) and volatile organic compounds (VOC) are considered interchangeable.

Table 1
Air Quality Impact Trigger Levels

Pollutant	Emission Rate		
	Pounds/Hour	Pounds/Day	Tons/Year
Respirable Particulate Matter (PM_{10})	--	100	15
Fine Particulate Matter ($PM_{2.5}$)	--	55[a]	10[a]
Oxides of Nitrogen (NO_X)	25	250	40
Oxides of Sulfur (SO_X)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	--	3.2	0.6
Volatile Organic Compounds (VOCs)	--	75[b]	13.7[c]

SOURCE: SDAPCD, Rules 20.1, 20.2, 20.3; County of San Diego 2007.

[a]Based on the U.S. Environmental Protection Agency "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005. Also used by the South Coast Air Quality Management District.

[b]Threshold for VOCs based on the threshold of significance for VOCs from the South Coast Air Quality Management District for the Coachella Valley.

[c]13.7 tons per year threshold based on 75 pounds per day multiplied by 365 days per year and divided by 2,000 pounds per ton.

The criteria levels listed in Table 1 are thresholds to evaluate the increased emissions that would be discharged to the SDAB if the project were to be approved. Emissions below the screening level thresholds would not cause a significant impact on air quality. If emissions exceed these thresholds, modeling would be required to demonstrate that the project's total air quality impacts would not exceed the NAAQS and CAAQS, including background levels. For nonattainment pollutants (O_3, with ozone precursors NO_X and VOCs, and PM_{10} and $PM_{2.5}$), if emissions exceed the thresholds shown in Table 1, the project could have the potential to result in a cumulatively considerable net increase in these pollutants, and thus could have a significant impact on the ambient air quality.

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

a. Less than Significant Impact

The project site is within the SDAB, the boundaries of which are contiguous with San Diego County. Within San Diego County, the SDAPCD has primary responsibility for the development and implementation of rules and regulations designed to attain NAAQS and CAAQS, as well as the permitting of new or modified sources and the development of air quality management plans. The applicable air quality plans for the project are the San Diego Regional Air Quality Strategy (RAQS) and applicable portions of the SIP. The RAQS is produced by the SDAPCD and submitted to the state for inclusion in the SIP. The RAQS is revised every three years; the most recent RAQS was published in December 2016. Air quality emissions projections and control measures for stationary sources provided in the RAQS and SIP include consideration of many factors such as population projections from local planning documents (e.g., General Plans) and projections from the San Diego Association of Governments (SANDAG). Projects that propose development consistent with the growth anticipated by the relevant planning documents used in the formulation of the RAQS and SIP would be consistent with the RAQS and SIP.

The project would not result in a change in land use, and thus is consistent with the City land use designations. Because the project would be consistent with the applicable General Plans that were used in the formulation of the RAQS and SIP, the project would be considered consistent with the RAQS and SIP. Additionally, the project would not result in any changes in population or employment growth used to establish the RAQs and SIP, and are therefore consistent with regional growth projections. Therefore, the project would not conflict with or obstruct implementation of the applicable air quality plan and impacts would be less than significant.

b. Less than Significant Impact

A project could result in a cumulatively significant impact if it would generate emissions that constitute a cumulatively considerable net increase of PM_{10} and $PM_{2.5}$, or exceed quantitative thresholds for O_3 precursors, NO_X, and VOCs. The project site is in an area that is largely developed, and emissions from existing development are part of the ambient air quality levels.

The SDAPCD does not have a specific construction emissions modeling program. Construction emissions were calculated using the Sacramento Metropolitan Air Quality Management District's (SMAQMD) Road Construction Emissions Model, Version 9.0.0 (SMAQMD 2018). This model is applicable for all construction projects that involve construction equipment that is subject to California Air Resources Board (CARB) construction equipment emissions standards. The Roadway Construction Emissions Model is a spreadsheet-based model that is able to use basic project information (e.g., total construction months, project type, total project area) to estimate a

construction schedule and quantify exhaust emissions from heavy-duty construction equipment, haul trucks, and worker commute trips associated with linear construction projects. Version 9.0.0 of the model incorporates the most currently approved Emission Factor (EMFAC) model and Off-Road Emissions Factors model. The Road Construction Emissions Model calculates fugitive dust, exhaust, and off-gas emissions from grubbing/land clearing, grading/excavation, drainage/utilities/sub-grade, and paving activities associated with construction projects that are linear in nature (e.g., road or levee construction, pipeline installation, transmission lines). Appendix A contains the Road Construction Emissions Model calculations for this project. The results of construction emissions were calculated using the Road Construction Emissions Model and are summarized in Table 2.

Table 2
Maximum Daily Construction Emissions
(pounds per day)

	Pollutant					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Grubbing/Land Clearing	2	14	16	<1	11	3
Grading/Excavation	2	15	18	<1	11	3
Drainage/Utilities/Sub-Grade	2	16	20	<1	11	3
Paving	2	21	24	<1	1	1
Maximum Daily Emissions	**2**	**21**	**24**	**<1**	**11**	**3**
Significance Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Significant Impact?	No	No	No	No	No	No

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

As shown, maximum daily construction emissions are projected to be less than the applicable thresholds for all criteria pollutants. Therefore, air quality impacts during construction activities would be less than significant.

Once construction is complete, there would be no operational source of emissions.

c. Less than Significant Impact

Sensitive receptors are typically defined as schools (preschool – 12th grade), hospitals, resident care facilities, day care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. Any project which has the potential to directly impact a sensitive receptor located within one mile and result in a health risk greater than 10 in 1 million would have a potentially significant impact. The land uses within the project vicinity include residential development and an elementary school.

The two primary emissions of concern regarding health effects for land development projects are diesel-fired particulates and carbon monoxide. Projects that would site sensitive receptors near potential CO hot spots (i.e., exceedance of County CO thresholds) or would contribute vehicle traffic to local intersections where a CO hot spot could occur would be considered as having a potentially significant impact. Additionally, projects that would result in exposure to TACs resulting in a

maximum incremental cancer risk greater than 1 in 1 million without application of best available control technology for toxics or a threshold of 10 in 1 million for project's implementing best emission-control technologies or a health hazard index greater than one would be considered as having a potentially significant impact. The project would result in construct only emissions and would not be an operational source of TAC emissions.

Construction of the project would result in the generation of diesel particulate matter (DPM) emissions from the use of off-road diesel construction activities and on-road diesel equipment. Generation of DPM from construction projects typically occurs in a single area for a short period. Construction activities would be short-term (less than one year). 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 nearby sensitive receptors. The risks are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). Due to the short duration of construction activity and the limited amount of construction equipment, DPM generated by project construction is not expected to create conditions where the probability is greater than 10 in 1 million of contracting cancer or to generate ground-level concentrations of noncarcinogenic TACs that exceed a Hazard Index greater than 1. Additionally, with ongoing implementation of U.S. Environmental Protection Agency (U.S. EPA) and CARB requirements for cleaner fuels; off-road diesel engine retrofits; and new, low-emission diesel engine types, the DPM emissions of individual equipment would be substantially reduced. Due to the limited time of exposure, project construction would not expose sensitive receptors to substantial pollutant concentrations. Therefore, construction impacts would be less than significant.

d. Less than Significant Impact

SDAPCD Rule 51 (Public Nuisance) and California Health & Safety Code, Division 26, Part 4, Chapter 3, Section 41700 prohibit the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of the public. Projects required to obtain permits from SDAPCD, typically industrial and some commercial projects, are evaluated by SDAPCD staff for potential odor nuisance and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance.

The project does not include the construction or operation of heavy industrial or agricultural uses that are typically associated with odor complaints. During construction, diesel equipment may generate some temporary nuisance odors. Sensitive receptors near the project site include residential uses and an elementary school. However, exposure to odors associated with project construction would be short term and temporary in nature. There would be no permanent or operational source of odors associated with the project. Therefore, operational impacts would be less than significant.

4.4 Biological Resources

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have substantial adverse effects, 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 (CDFW) or U.S. Fish and Wildlife Service (USFWS)?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?	☐	☐	☒	☐
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 tree preservation policy or ordinance?	☐	☐	☒	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan,	☐	☒	☐	☐

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
or other approved local, regional, or state habitat conservation plan?				

EXPLANATIONS:

A Biological Resources Report, including the results of a field survey, was completed on September 3, 2021 by RECON Environmental, Inc. and is included as Appendix B. The following sections are based on the findings of the Biological Resources Report.

a. Potentially Significant Unless Mitigation Incorporated

Seven vegetation communities were mapped within the study area: freshwater marsh, southern riparian scrub, mule fat scrub, native grassland, Diegan coastal sage scrub, disturbed habitat, and developed land (Figure 4 and Table 3). Freshwater marsh, southern riparian scrub, mule fat scrub, native grassland, and Diegan coastal sage scrub are considered sensitive vegetation communities.

Table 3
Vegetation Communities within the Survey Area (acres)[1]

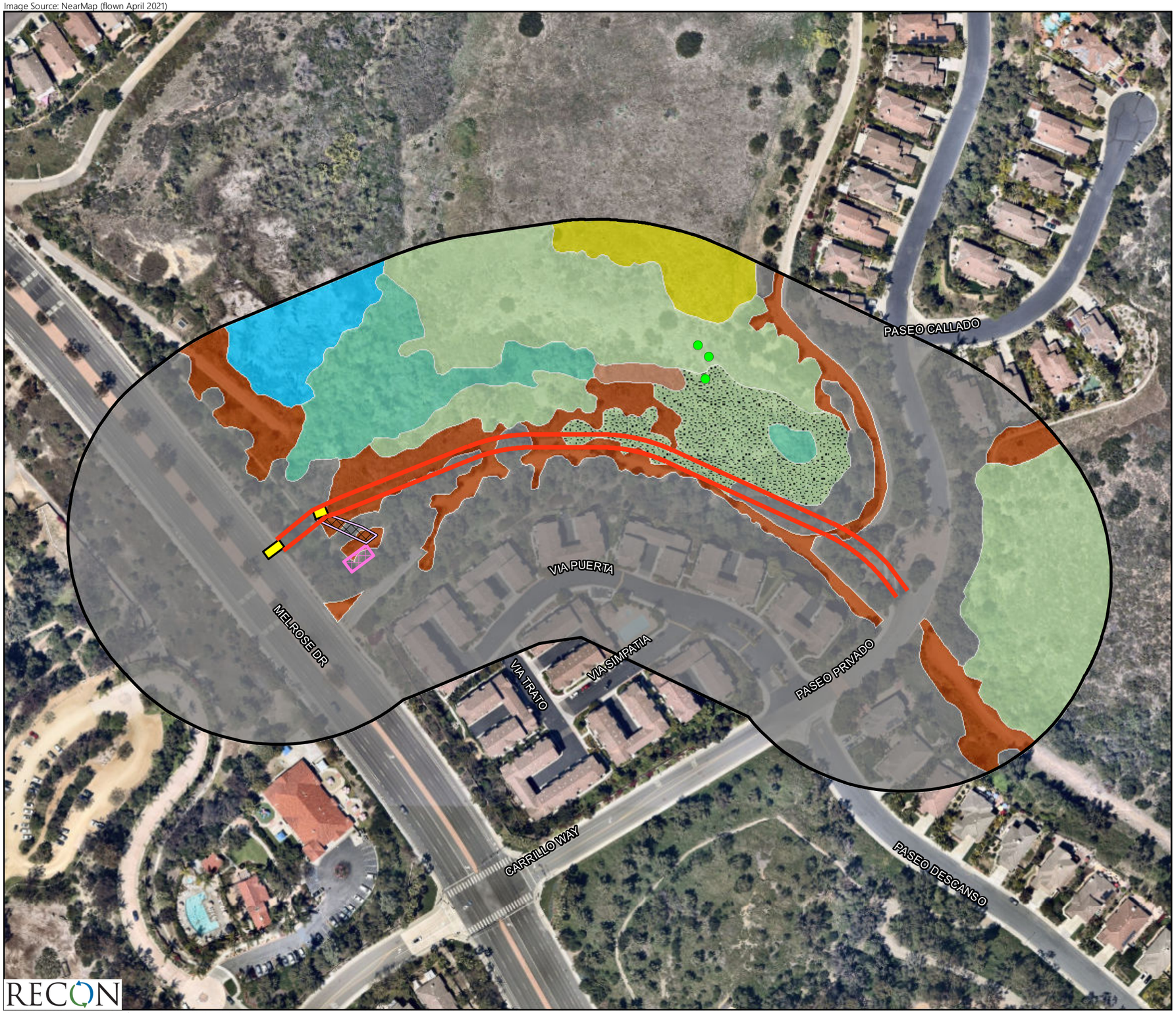
Vegetation Community	Carlsbad HMP Group	Survey Area	Project Impacts
Freshwater marsh	A	0.57	-
Southern riparian scrub	A	1.14	-
Mule fat scrub	A	0.09	-
Native grassland	B	0.54	-
Diegan coastal sage scrub	C/D[2]	4.97	
Disturbed habitat	F	2.11	0.02
Urban/developed land	NA	12.45	0.04
TOTAL		**21.8**	**0.06**

[1]Totals may differ due to rounding
[2]Per the Carlsbad Habitat Management Plan (HMP), coastal California gnatcatcher-occupied coastal sage scrub is considered Group C, whereas unoccupied coastal sage scrub is Group D.

Construction of the project would temporarily impact a total of 0.06 acre, including 0.02 acre of disturbed habitat and 0.04 acre of urban/developed land (see Table 3 and Figure 4). No impacts would occur to freshwater marsh southern riparian scrub, mule fat scrub, Diegan coastal sage scrub, or native grassland.

Although temporary in nature, impacts to disturbed habitat, a Group F vegetation community, would be considered significant. The project would require implementation of mitigation measure BIO-1, which would mitigate Group F vegetation community (disturbed habitat) at a ratio of 1:1 through revegetation with a native sage scrub seed mix.

Image Source: NearMap (flown April 2021)



Project Location/
Vallecitos Water District Easement

Access Pits

Grading Area

Staging Area

Survey Area

Sensitive Species

California Adolphia
(*Adolphia californica*)

Vegetation Communities

HMP Group A

Freshwater Marsh

Mule Fat Scrub

Southern Riparian Scrub

HMP Group B

Native Grassland

HMP Group C

Diegan Coastal Sage Scrub -
Assumed Gnatcatcher Occupied

HMP Group D

Diegan Coastal Sage Scrub -
Not Gnatcatcher Occupied

HMP Group F

Disturbed Habitat

No HMP Group

Urban/Developed

0 Feet 150

RECON

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FIGURE 4
Existing Biological Resources and Impacts

While no sensitive wildlife species were observed within the project site during the general biological survey, the project has potential to directly and/or indirectly impact the coastal California gnatcatcher, southern California rufous-crowned sparrow, and migratory birds protected by the Migratory Bird Treat Act (MBTA), California Fish and Game Code (CFGC), and Carlsbad Habitat Management Plan (HMP). Mitigation measure BIO-2 would reduce impacts through implementation of construction measures.

Project implementation of mitigation measure BIO-1 would ensure the revegetation of impacted habitat at ratios expressed in the HMP, and mitigation measure BIO-2 would require implementation of construction measures. Therefore, significant impacts related to vegetation communities would be reduced to a level less than significant.

b. Less than Significant Impact

As identified in the Biological Resources Report and shown in Figure 4, southern riparian scrub and mule fat scrub occur approximately 50 feet north of the project site, but would not be impacted by the project. Additionally, freshwater marsh, southern riparian scrub, and mule fat scrub, located north of the project site, would likely be considered wetlands under United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) jurisdiction. However, a formal jurisdictional delineation was not conducted because there are no drainages or potential wetlands close enough to the project site or area of construction. Thus, freshwater marsh, southern riparian scrub, and mule fat scrub would not be impacted as a result of the project and impacts would be less than significant.

c. No Impact

No federally protected wetlands as defined by Section 404 of the Clean Water Act exist or adjacent to the project site. The project would not have any direct or indirect impact on federally protected wetlands; therefore, there would be no impact.

d. Less than Significant Impact

Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Wildlife movement corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations (Beier and Loe 1992). Wildlife movement corridors are considered sensitive by resource and conservation agencies.

A biological survey of the project area was performed in association with the Biological Resources Report. The survey area is shown in Figure 4. The project is situated along the southern edge of an open space identified by the Carlsbad HMP as Linkage Area D (City of Carlsbad 2004). The large, undeveloped areas of native habitat that comprise the majority of Linkage Area D lie generally at the northern and eastern edges of the survey area, outside the District's easement. Wildlife movement through the survey area is constrained to the west and south by existing development. Thus, wildlife movement would largely be directed to the north and, to a lesser extent, to the east, across Paseo

Privado. East of Paseo Privado, there is a large expanse of undeveloped land extending east through San Marcos to Lake Hodges and beyond. Thus, while the survey area is part of an identified Linkage Area, the project lies at the edge of the corridor. If wildlife movement through the site is constrained, it would only be temporary. Therefore, impacts regarding interference with wildlife movement corridors would be less than significant.

e. Less than Significant Impact

The project would be implemented in accordance with all applicable policies and ordinances. The City approved an updated Community Forest Management Plan (CFMP) in 2019 to establish guidelines for tree planting within the City's rights-of-way. To comply with these guidelines, any trees that would be removed during construction would be replaced by approved tree species designated in the CFMP (2019) and the City of Carlsbad Landscape Manual (2016). Replacement trees would be selected to maintain community identity and character. Therefore, impacts would be less than significant.

f. Potentially Significant Unless Mitigation Incorporated

The City of Carlsbad HMP is a comprehensive, citywide conservation program whose purpose is to identify and preserve sensitive biological resources within the City while allowing for additional development consistent with the City's General Plan and Growth Management Plan. Specific biological objectives of the HMP are to conserve the full range of vegetation types remaining in the City, with a focus on protecting rare and special-status habitats and species. The HMP acts as a Subarea Plan to the overall Multiple Habitat Conservation Program that was approved and finalized in 2003 (SANDAG 2003).

As a result of the project, one vegetation community which is considered sensitive per the Carlsbad HMP would be impacted: Disturbed Habitat (0.02 acre). Consistent with the HMP, implementation of mitigation measure BIO-1 would reduce impacts to disturbed habitat to a level less than significant.

Mitigation Measures:

Mitigation Measure BIO-1

Proposed temporary impacts to disturbed habitat, a Group F vegetation community, would be mitigated at a ratio of 1:1, as shown in Table 2. Impacts to disturbed habitat would be mitigated through revegetation with a native sage scrub seed mix. As noted in the project description, landscaped areas of urban/developed land that would be impacted would be revegetated with an erosion control hydroseed mix. Revegetated areas would be subject to 25 months of maintenance and monitoring.

Table 4 Mitigation for Impacts to Vegetation Communities (acres)				
Vegetation Community/ Land Cover Type	Carlsbad HMP Group	Impacts	Mitigation Ratio	Mitigation Requirement
Disturbed habitat	F	0.02	1:1	0.02[1]
Urban/developed land	NA	0.04	-	-
TOTAL		0.06		0.02
[1]Mitigation would occur through revegetation of the impacted area with a native coastal sage scrub seed mix.				

Mitigation Measure BIO-2

Proposed impacts to Belding's orange-throated whiptail would be less than significant. Impacts to coastal California gnatcatcher, southern California rufous-crowned sparrow, and migratory birds protected by the MBTA, CFGC, and Carlsbad HMP would be mitigated through implementation of the following measures during construction:

1. Silt fencing, straw wattles, and/or other relevant erosion control BMPs are recommended to contain soil, sediment and other materials within the designated work areas and prevent erosion and deposition onto native vegetation in the surrounding areas.
2. A biological monitor shall be present during vegetation clearing to verify that construction remains within the approved limits of disturbance and to assist the construction crew in minimizing impacts to potentially occurring sensitive species.
3. Construction shall be timed to avoid the breeding season for coastal California gnatcatcher (March 1 to August 15), and southern California rufous-crowned sparrow and other avian species protected by the MBTA and CFGC (February 15 to August 31). If construction must occur during this period, additional measures should be implemented as follows:
    a. Pre-construction surveys shall be conducted for coastal California gnatcatcher by a qualified biologist with experience performing protocol surveys for the species. A total of two survey visits should be performed, including one within seven days of the start of construction. If no gnatcatchers are detected within 300 feet of the project impact areas, no additional measures will be needed for this species. If coastal California gnatcatchers are detected, no construction may occur within 300 feet of occupied habitat until the end of the breeding season.
    b. A pre-construction clearance survey within the impact area shall be conducted for other avian species protected by the MBTA and CFGC Sections 3503 and 3503.5. This could be conducted concurrently with the pre-construction survey in 3(a) or separately. If no nesting birds are detected in the impact area, no additional measures would be required. If nesting birds are detected within the impact area, a construction avoidance buffer would be required around the nest to ensure no construction activities may occur within the buffer until the end of the breeding season or after the nest is no longer active. The radius of the avoidance buffer would be determined based on the species and location of the nest.

c. If nests of any species are detected during the pre-construction surveys described in Recommendation 3(b), a biological monitor shall be retained to monitor construction when activities would occur adjacent to the avoidance buffer. The biological monitor shall make periodic (i.e., weekly) site visits to inspect the nest and determine whether it is active. Note that active coastal California gnatcatcher nests may only be inspected by a biologist with a coastal California gnatcatcher nest monitoring permit from USFWS.

With implementation of these mitigation measures, no significant impacts to coastal California gnatcatcher, southern California rufous-crowned sparrow, or other avian species would occur.

4.5 Cultural Resources

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of an 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 human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

EXPLANATIONS:

A Cultural Resources Survey Letter was completed on March 2, 2021 by RECON Environmental, Inc. and is included as Appendix C. The following sections are based on the findings of the Cultural Resources Survey Letter.

a. and b. Less than Significant Impact

No prehistoric cultural resources were mapped on or immediately adjacent to the property in the South Coastal Information Center record search files, however, the mapped boundary of one historic resource—P-37-015945—was identified as occurring within the project area. The previous research performed for this project indicates that a farm pond and associated dam alignment occurred just north of the western extent of the project alignment and abuts the current alignment of present-day Melrose Drive. However, the series of concrete and cobble dam features previously recorded as P-37-015945 were not observed during the current survey. P-37-015945 is presumed buried or destroyed by the construction of Melrose Drive. As a result, there would be no anticipated adverse effects to known historic resources within the project area. Furthermore, the project area has been

previously disturbed by construction of the present utility as well as by the construction of abutting roads and surrounding residential development. Given these past disturbances, the possibility of buried significant archaeological resources being present within the project area is considered low. Thus, impacts to historical and archaeological resources would be less than significant.

c. Less than Significant Impact

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are discovered, work shall halt in that area and the procedures set forth in the California Public Resources Code (Section 5097.98) and State Health and Safety Code (Section 7050.5) will be followed. With adherence to state regulations, impacts to human remains would be less than significant.

4.6 Energy

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in potentially significant environmental impacts 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?	☐	☐	☒	☐

EXPLANATIONS:

a. Less than Significant Impact.

Construction

During construction, the project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment and (2) bound energy in construction materials, such as asphalt and pipes.

Construction of the project would require the use of construction equipment for hauling and pipeline installation, backfill and paving activities. Equipment for these types of activities are discussed in Section 4.3, Air Quality, above. Construction equipment would be gas powered or diesel powered.

Furthermore, there are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable pipeline construction

sites in other parts of the state. Therefore, the proposed construction activities would not result in inefficient, wasteful, or unnecessary fuel consumption. Impacts would be less than significant.

Transportation

Transportation energy use depends on the type and number of trips, vehicle miles traveled, fuel efficiency of vehicles, and travel mode. Transportation energy use during construction would come from the transport and use of construction equipment and construction employee vehicles that would use diesel fuel and/or gasoline. The use of energy resources by these vehicles would be temporary, occurring only during construction of the pipeline. Therefore, impacts related to transportation energy use during construction would be temporary and would not require expanded energy supplies or the construction of new infrastructure. Impacts would be less than significant.

Operation

Upon completion of project construction, there would be no additional fuel consumption activities.

b. Less than Significant Impact

The project would be consistent with CARB's Scoping Plan, AB 32, and SB 32. The project would not conflict with existing energy standards and regulations; therefore, impacts during construction and operation of the project would be less than significant.

4.7 Geology and Soils

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☐	☒
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
iv. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial 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?	☐	☐	☒	☐

EXPLANATIONS:

a.i. No Impact

The project site is not located within an Alquist-Priolo Earthquake Fault Zone. Figure 3.5-2 of the City General Plan Final Environmental Impact Report (FEIR) (2015) illustrates that there are no known active, potentially active, or inactive faults that traverse the project site or its vicinity. However, all of California is seismically active and could be affected by seismic activity along nearby active faults (see 4.7[a.ii]). The project would rehabilitate a below ground pipeline and no habitable structures would be constructed. Therefore, no impacts associated with the rupture of a known fault would occur.

a.ii. No Impact

Southern California is a seismically active region, and it is typical for seismic activity to result in ground shaking. Moderate to strong ground shaking could be generated by earthquakes along any of the known active faults in the region, including the Elsinore, San Jacinto, San Andreas, Rose Canyon, Coronado Bank, San Diego Trough, and San Clemente faults. The project would rehabilitate a below

ground pipeline and no habitable structures would be constructed. Therefore, no impacts associated with strong seismic ground shaking would occur

a.iii. No Impact

Research and historical data have shown that loose granular soils and non-plastic silts that are saturated by a relatively shallow groundwater table are susceptible to liquefaction. According to Figure 3.5-3 of the FEIR for the City's General Plan update (City of Carlsbad 2015), there are no areas of liquefaction hazards on the project site. Therefore, no impacts would occur.

a.iv. No Impact

The FEIR for the City's General Plan (City of Carlsbad 2015) does not identify any areas in the City as susceptible to landslides. Therefore, no impacts would occur.

b. Less than Significant Impact

The project could result in impacts related to erosion of soils on or offsite during project construction due to the presence of soil piles. However, construction of the project would include BMPs as specified in the site construction storm water pollution prevention plan (SWPPP) to control wind or water erosion of exposed soils. Implementation of the BMPs identified in the SWPPP would ensure that potential impacts associated with erosion of topsoil would be less than significant.

c. No Impact

As previously stated (see 4.7(a.ii. and a.iv.), the project site is not located in an area prone to liquefaction or landslides. Therefore, no impacts would occur.

d. No Impact

The project would rehabilitate an existing District sewer pipeline. No development would occur on expansive soil. Therefore, no impact would occur regarding substantial direct or indirect risks to life or property due to expansive soils.

e. No Impact

The project would rehabilitate an existing District sewer pipeline. Septic tanks or other alternative wastewater disposal systems would not be a part of the project. Therefore, no impact would occur.

f. Less than Significant Impact

The probability of discovering paleontological resources depends on the geologic formation being excavated and the depth and volume of the excavation. The pipeline would be accessed by digging two access pits: one within Melrose Drive and the adjacent parking lot, and one within the District easement approximately 65 feet east of Melrose Drive. Minor grading may be required to reach the eastern access pit from the graded access road. Due to the depth and volume of excavation of previously disturbed soils, impacts to paleontological resources would be less than significant.

4.8 Greenhouse Gas Emissions

Would the project:

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

EXPLANATIONS:

a. Less than Significant Impact

Construction activities would generate GHGs due to the combustion of fossil fuel used in construction equipment, worker vehicle trips, and hauling and delivery truck trips. The methodology for addressing climate change is based on screening thresholds published by the California Air Pollution Control Officers Association (CAPCOA) to determine the need for additional analysis and mitigation of GHG-related impacts under CEQA. The screening level used to determine whether a climate change analysis is required is annual GHG emissions of 900 MT CO_2E. Following rationale presented in the CAPCOA Guidance, the aggregate emissions from all projects with individual annual emissions that are equal to or less than 900 MT CO_2E would not impede achievement of the state GHG emissions reduction targets codified by AB 32 (2006) and SB 32 (2016), and impacts under CEQA would therefore be less than cumulatively considerable. The City of Carlsbad Climate Action Plan (CAP) also utilizes a 900 MT CO_2E screening threshold for determining which projects are required to demonstrate consistency with the CAP. Projects that emit less than 900 MT CO_2E annually would not contribute considerably to cumulative GHG impacts (City of Carlsbad 2020).

As discussed in Section 4.3, Air Quality, the project would involve only construction-related air emissions. There would be no change in the operational impacts to air quality, which are minimal. Annual GHG emissions were calculated using the Road Construction Emissions Model.

Construction activities emit GHGs primarily through the combustion of fuels in the engines of off-road construction equipment (primarily diesel) and in the engines of on-road vehicles used for the delivery of materials and the commute vehicles of the construction workers. Every phase of the construction process, including grading and paving, emits GHGs in volumes proportional to the quantity and type of construction equipment used. Modeled construction equipment, worker trips,

and vendor trips were based on the construction surveys built into the model for each construction phase.

Appendix A contains the Road Construction Emissions Model calculations for this project. The results of construction GHG emissions calculated using the Road Construction Emissions Model are summarized in Table 5. To determine annual GHG emissions, total construction emissions were amortized over the approximate lifetime of the project, which was conservatively estimated to be 20 years.

Table 5 Construction GHG Emissions (MT CO_2E)	
Phase	GHG Emissions
Grubbing/Land Clearing	19
Grading/Excavation	103
Drainage/Utilities/Sub-Grade	70
Paving	41
Total Emissions	234
Annual Emissions (amortized over 20 years)	12
NOTE: Totals may vary due to independent rounding.	

As shown, the project would result in a total of 234 MT CO_2E over the entire construction period for an average of 12 MT CO_2E per year when amortized over a 20-year lifetime of the project. Annual emissions would not exceed 900 MT CO_2E per year. The annual 900 MT CO_2E screening level corresponds to the most ambitious state reduction target and is highly conservative. Projects with individual annual emissions that are equal to or less than 900 MT CO_2E would not impede achievement of the state GHG emissions reduction targets codified by AB 32 (2006) and SB 32 (2016), and impacts under CEQA would, therefore, be less than cumulatively considerable. As the project would not exceed the 900 MT CO_2E screening threshold for GHG emissions, GHG impacts associated with the project would be less than significant.

Further, once project construction is complete, no additional GHG emissions would be emitted.

b. Less than Significant Impact

The Legislature enacted AB 32, the California Global Warming Solutions Act of 2006, which was signed on September 27, 2006, to further the goals of EO S-3-05 (Health and Safety Code, S38500 et seq.). AB 32 required the CARB to adopt statewide GHG emissions limits to achieve statewide GHG emissions levels realized in 1990 by 2020. A longer-range goal requires an 80 percent reduction in GHG emissions from 1990 levels by 2050.

As discussed, projects with individual annual emissions that are equal to or less than 900 MT CO_2E would not impede achievement of the state GHG emissions reduction targets codified by AB 32 (2006) and SB 32 (2016). This threshold is based on the concept of establishing a GHG emission market capture rate. Following rationale presented in the CAPCOA Guidance, the aggregate emissions from all projects with individual annual emissions that are equal to or less than 900 MT

CO_2E would not impede achievement of the state GHG emissions reduction targets codified by AB 32 (2006) and SB 32 (2016), and impacts under CEQA would, therefore, be less than cumulatively considerable. Because construction would be short term and would not result in emissions that exceed 900 MT CO_2E, the project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Impacts would be less than significant.

4.9 Hazards and Hazardous Materials

Would the project:

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

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

EXPLANATIONS:

a. Less than Significant Impact

The project would not utilize acutely hazardous materials (as defined in Title 22 Cal. Code Regs. § 66260.10). Hazardous materials that may be utilized include diesel fuel, gasoline, oils, and solvents typically associated with standard construction vehicles and equipment. All materials would be routinely transported, used, and disposed of in accordance with any applicable laws, regulations, and protocols that protect the environment, the public, and workers. Compliance with all applicable laws and regulations would reduce the potential impact associated with the routine transport, use, storage, or disposal of hazardous materials to a less than significant level.

b. Less than Significant Impact

Although routine in nature, construction of the project could result in the release of hazardous materials into the environment due to potential upset or accident conditions involving the release of hazardous materials used in construction, which include diesel fuel and minor amounts of paints, fuels, solvents, and glues. Construction activities would be required to follow all applicable codes and regulations, including but not limited to the California Building and Fire Codes federal and California Occupational Safety and Health Administration (OSHA) regulations. With adherence to applicable codes and regulations, impacts related to the release of hazardous materials would be less than significant.

c. Less than Significant Impact

The project is located approximately 0.1 mile southeast of Carrillo Elementary School. The project would utilize limited amounts of hazardous materials such as gas, diesel fuel, oils, and solvents associated with standard construction vehicles and equipment, within the public right-of-way. All materials would be routinely transported, used, and disposed of in accordance with any applicable laws, regulations, and protocols that protect the environment, the public, and workers. Therefore, the project would have less than significant impacts on existing or proposed schools.

d. No Impact

The project is not located within any sites that are included on a list of hazardous materials sites pursuant to Government Code Section 65962.5. Therefore, the project would not create a significant hazard to the public or environment.

e. No Impact

The project is not located within an airport land use plan or within two miles of a public airport. Therefore, no impact would occur.

f. Less than Significant Impact

The City has adopted an Emergency Operations Plan (City of Carlsbad 2018) to provide guidance for the City's response to emergencies. This plan was developed to facilitate response and short-term recovery activities. This plan is consistent with and references the San Diego County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). These include, zoning ordinances and Uniform Building Code, weed abatement and defensible space programs, tree and landscape maintenance, habitat management plan, and community outreach strategies. Through compliance with regulatory safety measures, the project would have a less than significant impact on any emergency response plans or emergency evacuation plans.

g. Less than Significant

According to Figure 3.6-4, Structure Fire/Wildfire Threat in the City General Plan FEIR, the project site and surrounding area is located within a very high threat zone. The project does not propose the construction of any structures nor any development that would result in persons coming to the site. Since the project would replace an existing pipeline and construction would be temporary impacts due to wildfire would be less than significant.

4.10 Hydrology and Water Quality

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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	☐	☐	☐	☒

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

EXPLANATIONS:

a. Less than Significant Impact

Potential water quality impacts associated with construction of the project would be limited to short-term erosion/sedimentation that could occur during construction of the pipeline. Construction of the project would require coverage under the State Water Resources Control Board's National Pollutant Discharge Elimination System General Permit for Discharges of Storm Water Associates with Construction Activity – Construction General Permit (Order 2009-0009-DWQ). The Construction General Permit requires preparation and implementation of a SWPPP containing BMPs to control sediment and other construction-related pollutants in storm water discharges. Such BMPs would

include, but are not limited to, general housekeeping practices such as sweeping up of site debris, proper waste disposal procedures, use of tarps on any stockpiles, containment of building materials, and inspection for leaks and spills from construction vehicles and equipment. With implementation of the SWPPP, storm water discharges from the project during construction are not expected to violate existing water quality standards or waste discharge requirements. Impacts would be less than significant.

b. No Impact

Changes in surface area would be negligible and would not affect recharge of the San Dieguito Groundwater Basin. Additionally, the project does not require pumping of groundwater. Therefore, the project would have no adverse impact on the groundwater basin.

c.i, c.ii, and c.iii. Less than Significant Impact

The project is limited to construction activities required to replace an underground pipeline. No change in the local drainage patterns including volume or rate of runoff within the project area would occur. Additionally, since the pipeline would be installed below ground, with revegetation of disturbed habitat, no changes in impervious surface areas would occur. All construction activities would be conducted in accordance with BMPs specified in the construction SWPPP to prevent erosion and siltation, and other construction-related pollutants such as potential leaks from construction equipment. Overall, based on the project limits and implementation of the SWPPP, potential impacts to drainage and water quality would be less than significant.

c.iv. No Impact

The Federal Emergency Management Agency (FEMA) prepares 100-year floodplain maps that display the areas adjacent to water bodies where there is more than a 1 percent probability of flood in any given year. The project site is located outside of the FEMA 100-year floodplain area (City of Carlsbad 2015). Additionally, no habitable structures would be constructed as part of the project and the project would not alter the drainage pattern of the area or alter the course of any stream, river, or surface water drainage. Therefore, no impact would occur.

d. No Impact

Seiches are seismically induced events that occur when enclosed bodies of water are shaken (such as during seismic activity), causing waves that overflow containment. The project site is located approximately five miles from the Batiquitos Lagoon; however, based on water levels in the lagoon and the surrounding topography, there is no risk for inundation on the project site as a result of a seiche.

Tsunamis are large ocean waves induced by seismic events, volcanic eruptions, or landslides. The County of San Diego creates maps that identify coastal areas that are at high risk of inundation during tsunami events, and the project site is located outside of the identified tsunami run-up areas (County of San Diego 2009). Additionally, the project would rehabilitate a below ground pipeline and no habitable structures would be constructed. Therefore, the project would not expose people or structures to an inundation risk area for seiches, tsunamis, or mudflows. No impact would occur.

e. No Impact

The project is located within the Vallecitos Water District which provides potable, wastewater and reclaimed water services within northern San Diego County, including service to the city of San Marcos; parts of the cities of Carlsbad, Escondido, and Vista; and unincorporated areas in north San Diego County. The project is limited to the rehabilitation of an existing District sewer pipeline, and would not result in the construction of any uses that are covered by a water control plan. Therefore, the project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. No impacts would occur.

4.11 Land Use and Planning

Would the project:

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

EXPLANATIONS:

a. No Impact

Construction of the project would temporarily affect adjacent land uses (through increased dust, noise, and traffic), but impacts would cease upon completion of construction and would not permanently affect the existing surround land uses. In the long term, the pipeline would be located underground and, therefore, would not serve as a barrier within the existing community. No impact would occur.

b. No Impact

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

4.12 Mineral Resources

Would the project:

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

EXPLANATIONS:

a and b. No Impact

As described in the City General Plan FEIR (2015), no mineral resources of economic value to the region and the residents of the state have been identified in the City. Carlsbad has not been delineated as a locally important mineral recovery site. In addition, the project is not located in an area with commercially viable mineral resource extraction potential due to the urbanized and previously disturbed nature of the project site. Therefore, the project would not result in significant loss of availability of known mineral resources or locally important mineral resources as designated by the County of San Diego. No impacts would occur.

4.13 Noise

Would the project result in:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or	☐	☐	☒	☐

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
applicable standards of other agencies?				
b. Generation of excessive ground borne vibration or ground borne 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 area to excessive noise levels?	☐	☐	☐	☒

EXPLANATIONS:

a. Less than Significant Impact

The City regulates construction noise through its Municipal Code by limiting the time during which construction activities can occur. The City's Construction Hour Limitations, specified in Municipal Code Section 8.48.010, prohibit construction activities between the hours of 6:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. on Saturday, all day Sunday, and on any federal holiday.

Noise impacts from construction are a function of the noise generated by equipment, the location and sensitivity of nearby land uses, and the timing and duration of the noise-generating activities. Table 6 presents a list of noise generation levels for various types of equipment anticipated to be used on construction of the project. The duty cycle is the amount of time that equipment generates the reported noise level during typical, standard equipment operation. The noise levels and duty cycles summarized in Table 6 are based on measurements and studies conducted by Federal Highway Administration (FHWA) and the Federal Transit Authority (FTA).

Table 6 Construction Equipment Noise Levels			
Equipment	Maximum Noise Level at 50 Feet [dB(A) L_{eq}]	Typical Duty Cycle	Average Noise Level at 50 Feet [dB(A) L_{eq}]
Cement and Mortar Mixers	80	20%	73
Dump Truck	76	40%	72
Excavators	85	40%	81
Flat Bed Truck	74	40%	70
Plate Compactors	80	20%	73
Surfacing Equipment	80	40%	76
Sweepers/Scrubbers	80	40%	76
Tractors/Loaders/Backhoes	80	40%	76
SOURCE: Federal Highway Administration 2011; Federal Transit Authority 2018. dB(A) L_{eq} = A-weighted decibels average noise level			

As shown in Table 6, maximum noise levels from construction equipment range from approximately 74 A-weighted decibels [dB(A)] to 85 dB(A) at 50 feet from the source. Typical construction projects, with equipment moving from one point to another, work breaks, and idle time, have long-term noise averages that are lower than louder short-term noise events.

The closest residential uses are located immediately south of the construction area. The closest residence is located approximately 35 feet from the alignment.

As discussed, construction equipment would not be located at a single point for an extended period of time. Rather, multiple pieces of construction equipment would move along the alignment. Based on an average working distance of 350 feet per day, when the active work area is directly adjacent to a given receiver, construction activities throughout the day would be an average distance of 175 feet along an active portion of the alignment from the receiver. For a receiver that is set back 35 feet from the active work area alignment, using the Pythagorean theorem ($a^2 + b^2 = c^2$), it is calculated that the receiver is at an average distance of 178 feet from the construction equipment ($\sqrt{(35^2 + 175^2)} = 178$). Hourly average noise levels from the operation of up to three large pieces of equipment (e.g., excavator, backhoe, and a dump truck) would be 83 dB(A) average noise level (L_{eq}) at 50 feet from the equipment when assessing the loudest pieces of equipment working simultaneously. This noise level would attenuate to 72 dB(A) L_{eq} at the residential use closest to the proposed alignment. All other residential uses are located at greater distances from the construction area and, therefore, construction noise would be less than 72 dB(A) L_{eq}. Construction activities would occur during the times specified in the Municipal Code. Therefore, noise impacts due to construction activity would be less than significant.

Once construction is complete, the project would not be a source of operational noise. Thus, the project would not result in any permanent increase in ambient noise levels.

b. Less than Significant Impact

Human reaction to vibration is dependent on the environment the receiver is in as well as individual sensitivity. For example, vibration outdoors is rarely noticeable and generally not considered annoying. Typically, humans must be inside a structure for vibrations to become noticeable and/or

annoying. Based on several federal studies, the threshold of perception is 0.035 inch per second (in/sec) peak particle velocity (PPV), with 0.24 in/sec PPV being a distinctly perceptible (California Department of Transportation [Caltrans] 2013).

Construction activities produce varying degrees of ground vibration, depending on the equipment and methods employed. While ground vibrations from typical construction activities rarely reach levels high enough to cause damage to structures, special consideration must be made when sensitive or historic land uses are near the construction site. The construction activities that typically generate the highest levels of vibration are blasting and impact pile driving. However, the project would not require blasting or pile driving.

Vibration perception would occur at structures, as people do not perceive vibrations without vibrating structures. According to the FTA, small bulldozers and similar equipment generate vibration levels of 0.003 in/sec PPV at 25 feet. As discussed, the nearest residence is approximately 35 feet from the work area. At this distance, vibration levels would attenuate to 0.002 in/sec PPV or less. Therefore, construction vibration levels would be below the distinctly perceptible threshold. Impacts due to vibration would be less than significant.

Once construction is complete, the project would not be a source of vibration. Thus, the project would not result in any permanent increase in ambient noise levels.

c. No Impact

McClellan-Palomar Airport is located approximately 2.8 miles northwest of the project site. Therefore, the project is not located within two miles of a private or public airport or airstrip. Additionally, the project would construct any structures or result in any uses that would include on-site receptors. There would be no impact related to airport noise.

4.14 Population and Housing

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

EXPLANATIONS:

a. No Impact

The project would replace an underground pipeline and would not induce substantial population growth in the area, directly or indirectly. Construction personnel are anticipated to come from the local area, with no impacts occurring on population growth. No growth-inducing impacts are anticipated to occur from construction or operation of the project because it would only benefit existing customers. Therefore, substantial population growth would not result from the project.

b. No Impact

The project is limited to the construction necessary to replace the pipeline and would not displace any existing housing, necessitating the construction of replacement housing elsewhere. No impact would occur.

4.15 Public Services

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire protection?	☐	☐	☐	☒
ii. Police protection?	☐	☐	☐	☒
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

EXPLANATIONS:

a.i. – a.v. No Impact

The project is limited to construction activities required to replace an underground pipeline. The project would not change existing demand for public services (e.g., fire and police protection, schools, parks, libraries, or health clinics) because no population growth would occur as a result of the project (see Section 4.14, Population and Housing). As implementation of the project would not change the demand for public services, it would not require additional equipment or resources for those public service providers. Thus, no impact would occur.

4.16 Recreation

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

EXPLANATIONS:

a. No Impact

The project would not 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. The project is limited to construction activities required to replace an underground pipeline and no population growth would occur as a result of the project. Therefore, no impacts to existing neighborhood and regional parks or other recreational facilities would result from the project.

b. No Impact

The project is limited to construction activities required to replace an underground pipeline and would not require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. Therefore, no impacts to recreational facilities that would create an adverse physical effect on the environment would result from the project.

4.17 Transportation

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Conflict 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 uses (e.g., farm equipment)?	☐	☐	☐	☒
d. Result in inadequate emergency access?	☐	☐	☐	☒

EXPLANATIONS:

a. Less than Significant Impact

Although construction of the project would be temporary, the project could affect traffic patterns in the surrounding area during construction activities. For example, construction may require temporary lane closure tapers on Melrose Drive and Paseo Privado. In accordance with City Ordinance 11.16.090, a traffic control plan (TPM) would be required prior to construction to ensure stable flow of traffic during construction. With implementation of a TPM, impacts would be less than significant.

b. Less than Significant Impact

According to CEQA Guidelines Section 15064.3 subdivision (b), vehicle miles traveled (VMT) exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects that would decrease VMT compared to existing conditions should be considered to have a less than significant transportation impact. Construction of the project would include the temporary travel of construction worker vehicles traveling to and from the project site. As construction workers would be local, the project would not conflict with Section 15064.3 subdivision (b) and a less than significant impact would occur.

c. No Impact

The project is limited to construction activities required to replace an underground pipeline. No change to current roadway design would result from the project. Therefore, the project would have no impact to hazards due to a design feature or incompatible uses.

d. No Impact

The project would provide new access locations at incremental lengths along the alignment. The project would utilize the District's easement and access road, located uphill from the access pits. Equipment, vehicles, and personnel would access the work area from the graded access path located immediately to the south of the District's easement. Therefore, the project site would have adequate emergency access and no impacts would occur.

4.18 Tribal Cultural Resources

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☐	☐	☐	☒

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☐	☐	☒	☐

EXPLANATIONS:

A Cultural Resources Survey Letter was completed on March 2, 2021 by RECON Environmental, Inc. and is included as Appendix C.

a.i. No Impact

A letter was sent to the Native American Heritage Commission (NAHC) on September 29, 2020 requesting them to search their files to identify spiritually significant and/or sacred sites or traditional use areas in the project parcel vicinity. On October 6, 2020, RECON received a response stating that a record search of the NAHC Sacred Lands File was completed and results were negative (see Appendix C). Therefore, the project would not result in a substantial adverse change to the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources. No impacts would occur.

a.ii. Less than Significant

As described in Section 4.5, Cultural Resources, no prehistoric cultural resources were mapped on or immediately adjacent to the property in the South Coastal Information Center record search files. However, the mapped boundary of one historic resource—P-37-015945—was identified as occurring within the project area. The series of concrete and cobble dam features previously recorded as P-37-015945 were not observed during the current survey. P-37-015945 is presumed buried or destroyed by the construction of Melrose Drive. As a result, there would be no anticipated adverse effects to known historic resources within the project area. Since the project area has been previously disturbed by construction of the present utility as well as by the construction of abutting roads and surrounding residential development. Given these past disturbances, the possibility of buried

significant archaeological resources being present within the project area is considered low. Thus, impacts to historical and archaeological resources would be less than significant.

4.19 Utilities and Service Systems

Would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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 provided 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 regulation related to solid waste?	☐	☐	☐	☒

EXPLANATIONS:

a. Less than Significant Impact

The project would rehabilitate an existing District sewer pipeline and would not require or result in the construction of new water or wastewater treatment facilities. .Because the project is limited to construction activities related to replacement of underground pipelines, it would maintain the existing land uses at the site, and would not result in any expansion, construction, or relocation of expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities. No impact would occur.

b. No Impact

The project would rehabilitate a below ground pipeline and no habitable structures would be constructed. During construction, water use would be limited and temporary in nature at the project site for some construction activities such as dust control and or mixing materials (e.g., concrete mix). Upon completion of the project, no additional water use would be required. Therefore, no impacts would occur regarding availability of water supplies.

c. No Impact

The City provides sewer (wastewater) collection services through 288 miles of sewer pipes. Carlsbad's wastewater is delivered to the Encina Wastewater Authority, where it is treated and either released into the ocean or treated further and used as recycled water. Wastewater collection services to the southern portion of the City are provided by either the Leucadia Wastewater District or VWD. The project would rehabilitate a below ground sewer pipeline for VWD to better serve the surrounding community. Therefore, no impacts would occur.

d. Less than Significant

Construction of the project is not anticipated to generate a significant amount of solid waste. To the extent possible, excavated soil would be reused on-site. The construction contractor(s) would be required to dispose of excavated soil and solid wastes in accordance with local solid waste disposal requirements. The landfills that would likely be used to dispose of project solid waste are Sycamore Canyon and Otay. All material would be sorted and disposed of according to local, state, and federal requirements. The California Green Building Standards Code (Title 24, Part 11) requires that new building construction divert 50 percent of construction waste from landfills. Upon completion of the project, no additional solid waste would be generated. Therefore, potential impacts would be less than significant.

e. No Impact

Under the Integrated Solid Waste Management Act of 1989, all cities and counties in California were required to divert 25 percent of solid waste from landfills by January 1, 1995 and continue to increase solid waste diversion to 50 percent by January 1, 2000. The project would follow the latest diversion requirements as defined in the 2016 California Green Building Standards Code. The California Solid Waste Reuse and Recycling Access Act of 1991 requires that state and local agencies provide

adequate and accessible areas for collecting and loading garbage and recycling materials by creating ordinances for development projects. Lastly, the California Department of Toxic Substance Control (DTSC) enforces hazardous waste laws and regulations. The DTSC also issues permits to store, treat, or dispose of hazardous wastes; oversees cleanup activities on contaminated sites; provides emergency response for hazardous materials related emergencies; and investigates potential criminal activities related to hazardous wastes (DTSC 2010). The project would comply with federal, state, and local statutes and regulations related to solid waste. Recycling of construction debris would be implemented to the extent possible. All solid waste would be disposed of in an approved site in compliance with applicable regulations and no impact would occur.

4.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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 downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

EXPLANATIONS:

a. Less than Significant Impact

The City participates in MJHMP and identified Structural Fire/Wildfire as one of their top five hazards (County of San Diego 2018. The City included goals in the MJHMP to reduce the possibility of damage and losses to existing assets, including people, critical facilities/infrastructure, and public facilities due to structural fire/wildfire.

Furthermore, the City has adopted an Emergency Operations Plan (City of Carlsbad 2018) to provide guidance for the City's response to emergencies, including wildfire. This plan was developed to facilitate response and short-term recovery activities. This plan is consistent with and references the MJHMP. Several mitigation actions specific to wildfire are included in the plan. These include, zoning ordinances and Uniform Building Code, weed abatement and defensible space programs, tree and landscape maintenance, habitat management plan, and community outreach strategies such as distribution of materials about wildland fire mitigation actions the community can implement. The project would be required to include all construction-related fire safety measures to ensure consistency with the MJHMP and the City Emergency Operations Plan. Through compliance with regulatory safety measures, the project would have a less than significant impact on any emergency response plans or emergency evacuation plans.

b. No Impact

According to Figure 3.6-4, Structure Fire/Wildfire Threat in the City General Plan FEIR, the VWD easement and surrounding area is located within a very high threat zone. The project would rehabilitate a below ground pipeline and no habitable structures would be constructed. Thus, the project would not exacerbate the wildfire risks due to slope, prevailing winds, and other factors. Therefore, no impacts would occur.

c. No Impact

The project would not require the installation of new permanent associated infrastructure (such as fuel breaks, emergency water sources, power lines or other utilities) that could exacerbate fire risk or result in temporary or ongoing impacts to the environment. The project would rehabilitate a below ground pipeline and no habitable structures would be constructed. Therefore, no impacts would occur.

d. Less than Significant Impact

The project does not include changes related to existing drainage patterns nor would it create new risks due to downslope or downstream flooding. The project be required to comply with applicable local and state building codes and, therefore, would not exacerbate the potential for landslide hazards. Therefore, impacts associated with landslides as a result of runoff, post-fire slope instability, or drainage changes would be less than significant.

4.21 Mandatory Findings of Significance

Does the project:

Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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 futures projects)?	☐	☐	☒	☐
c. Have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

EXPLANATIONS:

a. Potentially Significant Unless Mitigation Incorporated

Implementation of the project has the potential to result in significant impacts to biological resources. The project would require implementation of mitigation measure BIO-1, which would mitigate Group F vegetation community (disturbed habitat) at a ratio of 1:1 through revegetation with a native sage scrub seed mix. While no sensitive wildlife species were observed within the project site during

the general biological survey, the project has potential to directly and/or indirectly impact the coastal California gnatcatcher, southern California rufous-crowned sparrow, and migratory birds protected by the Migratory Bird Treat Act (MBTA), California Fish and Game Code (CFGC), and Carlsbad HMP. Mitigation measure BIO-2 would reduce impacts through implementation of construction measures. The project does not include a component with the potential to otherwise degrade the quality of the environment or eliminate important examples of the major periods of California history or prehistory.

b. Less than Significant Impact

The project's contribution to cumulative impacts would be less than significant. Impacts from project construction would not contribute to cumulatively considerable impacts due to the short-term nature of construction, the localized footprint of project construction, and the lack of other projects in the immediate vicinity of the project that would contribute cumulative impacts.

c. Less than Significant Impact

The project would rehabilitate and existing sewer pipeline for District customers. With adherence to applicable codes and regulations direct or indirect impacts on humans resulting from the project would be less than significant.

5.0 Determination and Preparers

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE FEE DETERMINATION

(Fish and Game Code Section 711.4, Statutes of 2006 – SB 1535)

[ ] It is hereby found that this project involves no potential for any adverse effect, either individual or cumulatively, on wildlife resources and that a "Certificate of Fee Exemption" shall be prepared for this project.

[X] It is hereby found that this project could potentially impact wildlife, individually or cumulatively, and therefore, fees in accordance with Section 711.4(d) of the Fish and Game Code shall be paid to the County Clerk.

Report Preparers

RECON Environmental, Inc., 3111 Camino del Rio North, Suite 600, San Diego, CA 92108

Michael Page, AICP, Report Reviewer, Principal
Lori Spar, Report Reviewer, Senior Project Manager
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Brian Parker, Senior Biologist
Jessica Fleming, Air Quality, GHG, and Noise Specialist
Stacey Higgins, Senior Production Specialist
Benjamin Arp, GIS Specialist

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APPENDICES

APPENDIX A

Road Construction Emissions Model

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Failsafe Outfall and Emergency Bypass Pipeline Phase II Project

Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.61	16.15	14.16	10.69	0.69	10.00	2.70	0.62	2.08	0.03	3,221.62	0.95	0.03	3,255.36
Grading/Excavation	1.72	17.83	14.52	10.76	0.76	10.00	2.73	0.65	2.08	0.04	3,793.59	0.96	0.06	3,836.96
Drainage/Utilities/Sub-Grade	1.84	19.65	16.12	10.80	0.80	10.00	2.78	0.70	2.08	0.04	3,862.45	1.07	0.04	3,902.42
Paving	2.27	24.03	20.67	1.05	1.05	0.00	0.94	0.94	0.00	0.05	4,476.66	1.31	0.05	4,523.66
Maximum (pounds/day)	2.27	24.03	20.67	10.80	1.05	10.00	2.78	0.94	2.08	0.05	4,476.66	1.31	0.06	4,523.66
Total (tons/construction project)	0.12	1.26	1.05	0.61	0.05	0.56	0.16	0.05	0.12	0.00	254.73	0.07	0.00	257.50

Notes:

Project Start Year ->	2021
Project Length (months) ->	6
Total Project Area (acres) ->	1
Maximum Area Disturbed/Day (acres) ->	1
Water Truck Used? ->	No

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	320	0
Grading/Excavation	0	20	0	30	920	0
Drainage/Utilities/Sub-Grade	0	0	0	0	680	0
Paving	0	0	0	0	520	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Failsafe Outfall and Emergency Bypass Pipeline Phase II Project

Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.11	0.09	0.07	0.00	0.07	0.02	0.00	0.01	0.00	21.26	0.01	0.00	19.49
Grading/Excavation	0.05	0.53	0.43	0.32	0.02	0.30	0.08	0.02	0.06	0.00	112.67	0.03	0.00	103.38
Drainage/Utilities/Sub-Grade	0.04	0.39	0.32	0.21	0.02	0.20	0.06	0.01	0.04	0.00	76.48	0.02	0.00	70.10
Paving	0.02	0.24	0.20	0.01	0.01	0.00	0.01	0.01	0.00	0.00	44.32	0.01	0.00	40.63
Maximum (tons/phase)	0.05	0.53	0.43	0.32	0.02	0.30	0.08	0.02	0.06	0.00	112.67	0.03	0.00	103.38
Total (tons/construction project)	0.12	1.26	1.05	0.61	0.05	0.56	0.16	0.05	0.12	0.00	254.73	0.07	0.00	233.60

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model
Data Entry Worksheet

Version 9.0.0

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Input Type

Project Name	Failsafe Outfall and Emergency Bypass Pipeline Phase II Project	
Construction Start Year	2021	Enter a Year between 2014 and 2040 (inclusive)
Project Type For 4: Other Linear Project Type, please provide project specific off-road equipment population and vehicle trip data	4	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	6.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	0.21	miles
Total Project Area	1.25	acres
Maximum Area Disturbed/Day	0.50	acres
Water Trucks Used?	2	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing			
	Grading/Excavation			
	Drainage/Utilities/Sub-Grade			
	Paving			
Asphalt	Grubbing/Land Clearing			
	Grading/Excavation	20.00	0.00	20.00
	Drainage/Utilities/Sub-Grade			
	Paving			

Mitigation Options

On-road Fleet Emissions Mitigation		Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation		Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

The remaining sections of this sheet contain areas that require modification when 'Other Project Type' is selected.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		0.60		1/1/2021
Grading/Excavation		2.70		1/20/2021
Drainage/Utilities/Sub-Grade		1.80		4/13/2021
Paving		0.90		6/7/2021
Totals (Months)	6			

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing				0	0.00
Miles/round trip: Grading/Excavation				0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade				0	0.00
Miles/round trip: Paving				0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.42	3.06	0.11	0.05	0.02	1,779.29	0.00	0.28	1,862.69
Grading/Excavation (grams/mile)	0.04	0.42	3.06	0.11	0.05	0.02	1,779.29	0.00	0.28	1,862.69
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.42	3.06	0.11	0.05	0.02	1,779.29	0.00	0.28	1,862.69
Paving (grams/mile)	0.04	0.42	3.06	0.11	0.05	0.02	1,779.29	0.00	0.28	1,862.69
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing				0	0.00
Miles/round trip: Grading/Excavation	30.00			1	30.00
Miles/round trip: Drainage/Utilities/Sub-Grade				0	0.00
Miles/round trip: Paving				0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.42	3.06	0.11	0.05	0.02	1,779.29	0.00	0.28	1,862.69
Grading/Excavation (grams/mile)	0.04	0.42	3.06	0.11	0.05	0.02	1,779.29	0.00	0.28	1,862.69
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.42	3.06	0.11	0.05	0.02	1,779.29	0.00	0.28	1,862.69
Paving (grams/mile)	0.04	0.42	3.06	0.11	0.05	0.02	1,779.29	0.00	0.28	1,862.69
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.03	0.21	0.01	0.00	0.00	117.68	0.00	0.02	123.20
Tons per const. Period - Grading/Excavation	0.00	0.00	0.01	0.00	0.00	0.00	3.50	0.00	0.00	3.66
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.01	0.00	0.00	0.00	3.50	0.00	0.00	3.66

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions	User Override of Worker			
User Input	Commute Default Values	Default Values		
Miles/ one-way trip	20		Calculated	Calculated
One-way trips/day	2		Daily Trips	Daily VMT
No. of employees: Grubbing/Land Clearing	8		16	320.00
No. of employees: Grading/Excavation	23		46	920.00
No. of employees: Drainage/Utilities/Sub-Grade	17		34	680.00
No. of employees: Paving	13		26	520.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.02	1.10	0.10	0.05	0.02	0.00	339.80	0.00	0.01	342.28
Grading/Excavation (grams/mile)	0.02	1.10	0.10	0.05	0.02	0.00	339.80	0.00	0.01	342.28
Draining/Utilities/Sub-Grade (grams/mile)	0.02	1.10	0.10	0.05	0.02	0.00	339.80	0.00	0.01	342.28
Paving (grams/mile)	0.02	1.10	0.10	0.05	0.02	0.00	339.80	0.00	0.01	342.28
Grubbing/Land Clearing (grams/trip)	1.18	2.95	0.34	0.00	0.00	0.00	72.81	0.08	0.04	85.39
Grading/Excavation (grams/trip)	1.18	2.95	0.34	0.00	0.00	0.00	72.81	0.08	0.04	85.39
Draining/Utilities/Sub-Grade (grams/trip)	1.18	2.95	0.34	0.00	0.00	0.00	72.81	0.08	0.04	85.39
Paving (grams/trip)	1.18	2.95	0.34	0.00	0.00	0.00	72.81	0.08	0.04	85.39
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.06	0.88	0.08	0.03	0.01	0.00	242.29	0.01	0.01	244.48
Tons per const. Period - Grubbing/Land Clearing	0.00	0.01	0.00	0.00	0.00	0.00	1.60	0.00	0.00	1.61
Pounds per day - Grading/Excavation	0.16	2.53	0.23	0.09	0.04	0.01	696.58	0.02	0.02	702.89
Tons per const. Period - Grading/Excavation	0.00	0.08	0.01	0.00	0.00	0.00	20.69	0.00	0.00	20.88
Pounds per day - Drainage/Utilities/Sub-Grade	0.12	1.87	0.17	0.07	0.03	0.01	514.86	0.01	0.01	519.53
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.04	0.00	0.00	0.00	0.00	10.19	0.00	0.00	10.29
Pounds per day - Paving	0.09	1.43	0.13	0.05	0.02	0.00	393.72	0.01	0.01	397.29
Tons per const. Period - Paving	0.00	0.01	0.00	0.00	0.00	0.00	3.90	0.00	0.00	3.93
Total tons per construction project	0.01	0.13	0.01	0.00	0.00	0.00	36.38	0.00	0.00	36.71

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions	User Override of	Program Estimate of	User Override of Truck	Default Values	Calculated	User Override of	Default Values	Calculated
User Input	Default # Water Trucks	Number of Water Trucks	Round Trips/Vehicle/Day	Round Trips/Vehicle/Day	Trips/day	Miles/Round Trip	Miles/Round Trip	Daily VMT
Grubbing/Land Clearing - Exhaust								0.00
Grading/Excavation - Exhaust								0.00
Drainage/Utilities/Subgrade								0.00
Paving								0.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.04	0.42	3.06	0.11	0.05	0.02	1,779.29	0.00	0.28	1,862.69
Grading/Excavation (grams/mile)	0.04	0.42	3.06	0.11	0.05	0.02	1,779.29	0.00	0.28	1,862.69
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.42	3.06	0.11	0.05	0.02	1,779.29	0.00	0.28	1,862.69
Paving (grams/mile)	0.04	0.42	3.06	0.11	0.05	0.02	1,779.29	0.00	0.28	1,862.69
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing	0.50		10.00	0.07	2.08	0.01
Fugitive Dust - Grading/Excavation	0.50		10.00	0.30	2.08	0.06
Fugitive Dust - Drainage/Utilities/Subgrade	0.50		10.00	0.20	2.08	0.04

Values in cells D195 through D228, D246 through D279, D297 through D330, and D348 through D381 are required when 'Other Project Type' is selected.

Off-Road Equipment Emissions

Grubbing/Land Clearing	Default Number of Vehicles	Mitigation Option Override of	Default		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Excavators	0.46	6.54	4.31	0.21	0.19	0.01	1,000.38	0.32	0.01	1,011.17
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Off-Highway Trucks	0.61	3.60	5.26	0.19	0.18	0.01	1,278.52	0.41	0.01	1,292.29
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Signal Boards	0.11	0.60	0.72	0.03	0.03	0.00	98.63	0.01	0.00	99.13
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Tractors/Loaders/Backhoes	0.37	4.52	3.79	0.22	0.21	0.01	601.80	0.19	0.01	608.28
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
			pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing	pounds per day	1.55	15.27	14.08	0.65	0.60	0.03	2,979.34	0.94	0.03	3,010.87
Grubbing/Land Clearing	tons per phase	0.01	0.10	0.09	0.00	0.00	0.00	19.66	0.01	0.00	19.87

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Excavators	0.46	6.54	4.31	0.21	0.19	0.01	1,000.38	0.32	0.01	1,011.17
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Off-Highway Trucks	0.61	3.60	5.26	0.19	0.18	0.01	1,278.52	0.41	0.01	1,292.29
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Signal Boards	0.11	0.60	0.72	0.03	0.03	0.00	98.63	0.01	0.00	99.13
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Tractors/Loaders/Backhoes	0.37	4.52	3.79	0.22	0.21	0.01	601.80	0.19	0.01	608.28
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grading/Excavation	pounds per day	1.55	15.27	14.08	0.65	0.60	0.03	2,979.34	0.94	0.03	3,010.87
Grading/Excavation	tons per phase	0.05	0.45	0.42	0.02	0.02	0.00	88.49	0.03	0.00	89.42

Drainage/Utilities/Subgrade	Default Number of Vehicles	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*		Equipment Tier		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Excavators	0.46	6.54	4.31	0.21	0.19	0.01	1,000.38	0.32	0.01	1,011.17
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Off-Highway Trucks	0.61	3.60	5.26	0.19	0.18	0.01	1,278.52	0.41	0.01	1,292.29
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Plate Compactors	0.04	0.21	0.25	0.01	0.01	0.00	34.48	0.00	0.00	34.65
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Rough Terrain Forklifts	0.12	2.29	1.61	0.06	0.06	0.00	333.77	0.11	0.00	337.37
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Signal Boards	0.11	0.60	0.72	0.03	0.03	0.00	98.63	0.01	0.00	99.13
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Tractors/Loaders/Backhoes	0.37	4.52	3.79	0.22	0.21	0.01	601.80	0.19	0.01	608.28
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
			pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Drainage/Utilities/Sub-Grade	pounds per day	1.72	17.78	15.94	0.73	0.67	0.04	3,347.59	1.05	0.03	3,382.89
Drainage/Utilities/Sub-Grade	tons per phase	0.03	0.35	0.32	0.01	0.01	0.00	66.28	0.02	0.00	66.98

Paving Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Excavators	0.46	6.54	4.31	0.21	0.19	0.01	1,000.38	0.32	0.01	1,011.17
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Off-Highway Trucks	0.61	3.60	5.26	0.19	0.18	0.01	1,278.52	0.41	0.01	1,292.29
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Pavers	0.25	2.90	2.60	0.13	0.12	0.00	455.06	0.15	0.00	459.97
1.00			Model Default Tier	Paving Equipment	0.19	2.54	1.94	0.10	0.09	0.00	394.46	0.13	0.00	398.71
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Rollers	0.19	1.88	1.92	0.12	0.11	0.00	254.09	0.08	0.00	256.83
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Signal Boards	0.11	0.60	0.72	0.03	0.03	0.00	98.63	0.01	0.00	99.13
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Tractors/Loaders/Backhoes	0.37	4.52	3.79	0.22	0.21	0.01	601.80	0.19	0.01	608.28
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Paving	pounds per day	2.18	22.60	20.54	0.99	0.92	0.04	4,082.94	1.30	0.04	4,126.38
Paving	tons per phase	0.02	0.22	0.20	0.01	0.01	0.00	40.42	0.01	0.00	40.85
Total Emissions all Phases (tons per construction period) =>		0.11	1.13	1.03	0.05	0.04	0.00	214.85	0.07	0.00	217.13

Equipment default values for horsepower and hours/day can be overridden in cells D403 through D436 and F403 through F436.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		221		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		231		8
Crawler Tractors		212		8
Crushing/Proc. Equipment		85		8
Excavators		158		8
Forklifts		89		8
Generator Sets		84		8
Graders		187		8
Off-Highway Tractors		124		8
Off-Highway Trucks		402		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		168		8
Pavers		130		8
Paving Equipment		132		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		80		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		247		8
Rubber Tired Loaders		203		8
Scrapers		367		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		263		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		97		8
Trenchers		78		8
Welders		46		8

END OF DATA ENTRY SHEET

APPENDIX B

Biological Resources Report

RECON

Biological Resources Report for the Vallecitos Water District Failsafe Outfall and Emergency Bypass Pipeline Phase II Project Carlsbad, California

Prepared for
Vallecitos Water District
201 Vallecitos De Oro
San Marcos, CA 92069
Contact: Mr. Ryan Morgan

Prepared by
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RECON Number 9725-2
September 3, 2021

Cailin Lyons, Biology Project Director
and
Brian Parker, Associate Project Manager/Biologist

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ATTACHMENTS

Acronyms and Abbreviations

amsl	Above mean sea level
BMP	Best Management Practices
CDFW	California Department of Fish and Wildlife
CFGC	California Fish and Game Code
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
dB(A)L_{eq}	A-weighted decibels hourly average
District	Vallecitos Water District
FPA	Focused Planning Area
HMP	Habitat Management Plan
MBTA	Migratory Bird Treaty Act
project	Vallecitos Water District Failsafe Outfall and Emergency Bypass Pipeline Phase II Project
RECON	RECON Environmental Inc.
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Summary of Findings

The Vallecitos Water District's (District's) Failsafe Outfall and Emergency Bypass Pipeline Phase II Project (project) consists of rehabilitation of approximately 1,060 feet of existing 16-inch sewer pipeline located between Melrose Drive and Paseo Privado in the city of Carlsbad. This report describes existing biological conditions, sensitive biological resources, impacts, and avoidance and mitigation measures associated with construction of the project.

The Carlsbad Habitat Management Plan (HMP) identifies Focused Planning Areas (FPAs) as lands of high biological value targeted for conservation. The FPAs are divided into Core Areas, Linkage Areas, and Special Resource Areas. The survey area does not lie within a Core Area or Special Resource Area, but it does lie primarily within Linkage Area D, which provides connectivity between two nearby Core Areas (Core Areas 5 and 7). In addition, the survey area is situated largely within United States Fish and Wildlife Service (USFWS) designated final critical habitat for the coastal California gnatcatcher (*Polioptila californica californica*).

The proposed project would impact disturbed habitat, and urban/developed land. Impacts to disturbed habitat would require mitigation; however, impacts to urban/developed land would not require mitigation (City of Carlsbad 2004).

One sensitive species, California adolphia (*Adolphia californica*), was observed and one additional sensitive plant species, thread-leaved brodiaea (*Brodiaea filifolia*), has potential to occur in the survey area. Neither species was observed or has potential to occur in the impact footprint, so neither would be impacted.

While no sensitive wildlife species were observed within the project site during the general biological survey, four species have potential to occur: Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), coastal California gnatcatcher, southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and San Diego black-tailed jackrabbit (*Lepus californica bennettii*). In addition, the migratory birds protected by the federal Migratory Bird Treaty Act (MBTA), California Fish and Game Code (CFGC), and the Carlsbad HMP have potential to nest in the survey area. Impacts to Belding's orange-throated whiptail would be minimal and considered less than significant, while no impacts to San Diego black-tailed jackrabbit are anticipated. Potential direct and indirect impacts to coastal California gnatcatcher and southern California rufous-crowned sparrow, and nesting bird species would be prevented through implementation of avoidance measures, including avoidance of vegetation removal and construction during the breeding season and/or establishment of avoidance buffers around any nests. With implementation of these measures, no additional mitigation would be required.

A formal jurisdictional delineation was not conducted; however, the freshwater marsh, southern riparian scrub, and mule fat scrub in the northern portion of the survey area would likely be considered wetlands under United States Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife jurisdiction. These potential jurisdictional waters lie approximately 50 feet north of the District easement and would not be impacted.

The project site occurs within an identified HMP Linkage Area and lies at the extreme southern edge of a wildlife movement corridor. The proposed project would result in temporary impacts but would not result in loss of overall corridor function. Therefore, the project would not significantly impact a functioning wildlife corridor and no mitigation would be required.

1.0 Introduction

This report details the results of a biological resources survey conducted for the Vallecitos Water District's (District's) Failsafe Outfall and Emergency Bypass Pipeline Phase II Project (project). This report has been prepared to document existing and potentially occurring biological resources, analyze impacts from the proposed project, and detail potential avoidance, minimization, and mitigation measures to reduce those impacts to below a level of significance.

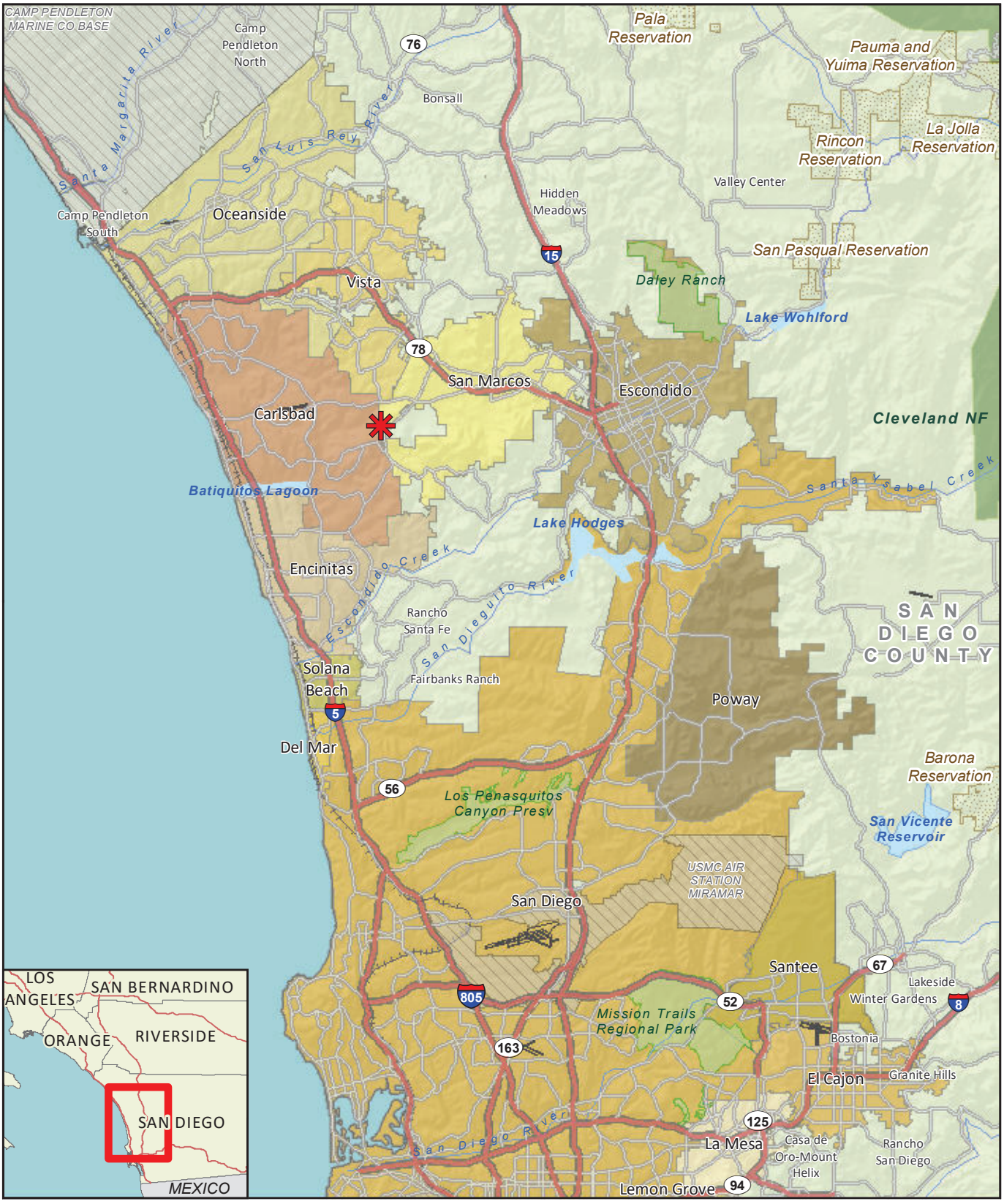
1.1 Project Description

The District is proposing to rehabilitate approximately 1,060 feet of existing 16-inch reinforced plastic mortar sewer pipeline with a cured-in-place-pipe liner, replace necessary control valves and appurtenances to operate the line, and provide new access locations at incremental lengths along the alignment. The pipeline would be accessed by digging two access pits: one within Melrose Drive and the adjacent parking lot, and one within the District easement approximately 65 feet east of Melrose Drive. Equipment, vehicles, and personnel would access the work area from Melrose Drive and the existing paved access road that runs from Melrose Drive to Paseo Privado. Equipment staging would occur within the graded access road south of the District easement. Minor grading may be required to reach to the eastern access pit from the graded access road. Any spoils would be stored within existing disturbed or developed areas, or within the District easement, uphill from the pits.

Appropriate best management practices (BMPs), including orange construction fencing, silt fencing, fiber rolls, and other measures, would be installed to prevent erosion and sedimentation into the surrounding areas and limit impacts to the approved work areas. Following construction, all habitat areas disturbed by pipeline repair activities would be revegetated. Habitats within Carlsbad HMP Groups B through F) would be revegetated with a native coastal sage scrub mix, and landscaped areas of urban/developed land would receive an erosion control mix.

1.2 Project Location

The project is located between Melrose Drive and Paseo Privado in the city of Carlsbad (Figures 1 through 3). It is situated within Sections 19 and 20, Township 12 South, Range 3 West on the U.S. Geological Survey (USGS) 7.5-minute Rancho Santa Fe quadrangle (USGS 1996; see Figure 2). The project is located along a District easement situated primarily on a graded fill slope that was manufactured in association with the adjacent developments and roads. The land to the north and east of the project location is otherwise undeveloped (see Figure 3).



Project Location

RECON

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FIGURE 1
Regional Location

Map Source: USGS 7.5 minute topographic map series, Rancho Santa Fe quadrangle, 1996, T12S R03W

Project Area

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FIGURE 2
Project Location on USGS Map

Image Source: NearMap (flown April 2021)

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FIGURE 3
Project Location on Aerial Photograph

The project site is located within the boundaries of the Carlsbad Habitat Management Plan (HMP; City of Carlsbad 2004), which is Carlsbad's subarea plan under the north county Multiple Habitat Conservation Plan (San Diego Association of Governments 2003). The HMP designates a natural habitat preserve system and provides a regulatory framework for determining impacts and designating mitigation associated with proposed projects in the city of Carlsbad. The HMP identifies a series of Focused Planning Areas (FPAs), which are lands of high biological value considered for conservation or development. The FPAs are broken down into Core Areas, Linkage Areas, and Special Resource Areas. The survey area is not located within a Core Area or Special Resource Area, but is located largely within HMP Linkage Area C, which provided connectivity between nearby Core Areas 5 and 7 (Figure 4).

The project is situated entirely within United States Fish and Wildlife Service (USFWS) designated final critical habitat for the coastal California gnatcatcher (*Polioptila californica californica*) and partially within critical habitat for thread-leaved brodiaea (*Brodiaea filifolia*; see Figure 4).

2.0 Methods and Survey Limitations

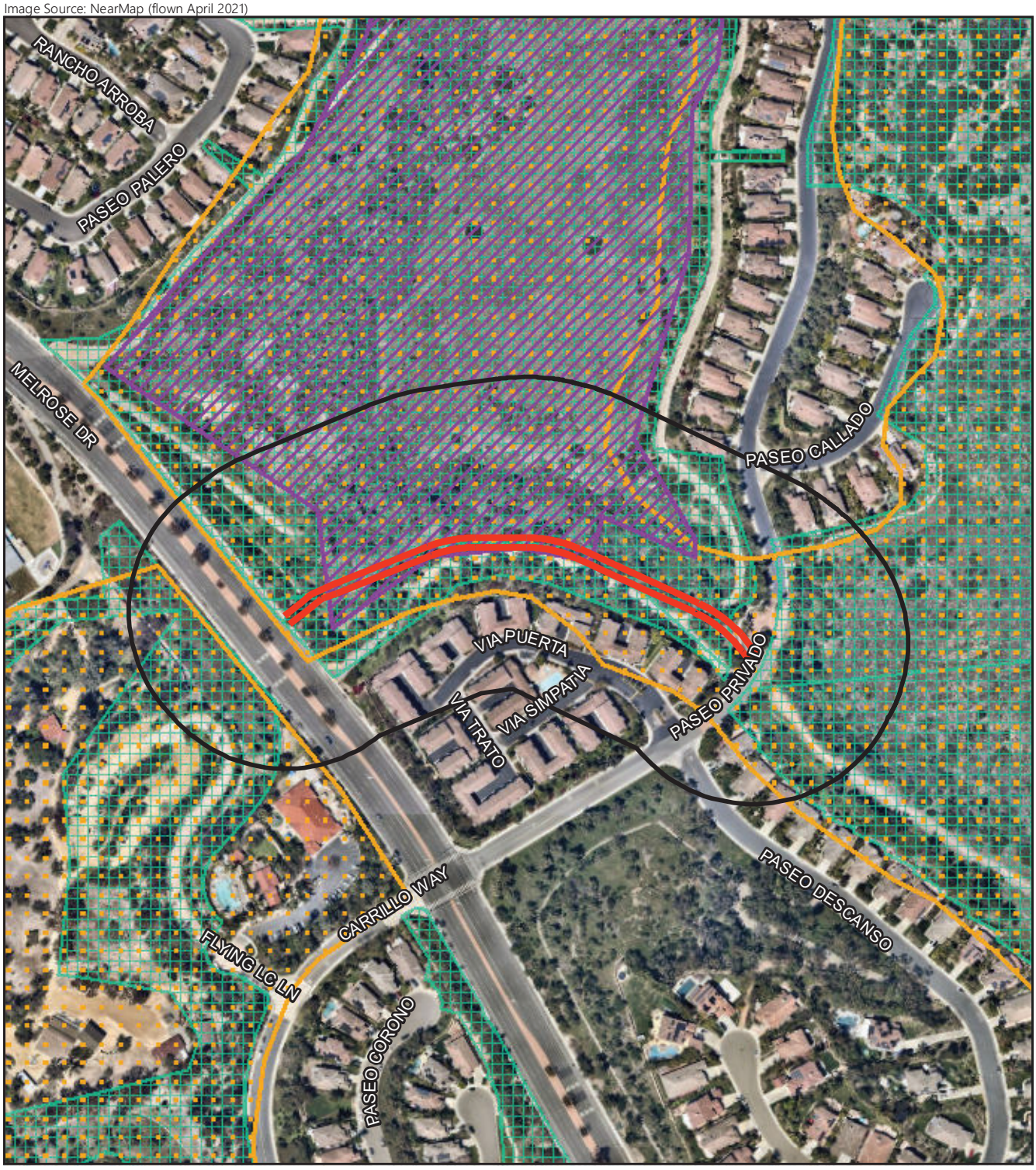
Prior to conducting fieldwork, RECON Environmental, Inc. (RECON) analyzed existing sensitive species data recorded within two miles of the proposed project areas. This analysis included searches of the USFWS All Species Occurrences Database (USFWS 2020), the SanBIOS database (County of San Diego 2020), and California Natural Diversity Database (CNDDB; California Department of Fish and Wildlife [CDFW] 2020a). Determination of the potential occurrence for sensitive species is based upon the results of the database searches, as well as known ranges and habitat preferences for the species.

Background research to assess the existing biological conditions also included a review of current and historical aerial satellite imagery (Google 2020), a USGS topographic map (USGS 1996), and United States Department of Agriculture (USDA) soil survey maps (1973).

The survey area for this project totals 21.88 acres and is defined based on a 300-foot buffer around the failsafe pipeline easement (see Figure 3). RECON biologist Brian Parker conducted a biological resources survey on October 13, 2020 between 11:40 a.m. and 1:30 p.m. to map vegetation and inventory plant species, document wildlife species, and assess the suitability of habitat for sensitive species. Weather conditions during the survey were typical for the fall season, with temperatures between 83 and 94 degrees Fahrenheit, no cloud cover, and wind speeds of 1 to 3 miles per hour. The entire survey area was surveyed on foot, with the exception of the Star Pine Nursery at the eastern end of the survey area, which is private property and was not open to the public at the time of the survey. Digital photographs of representative areas were taken during the survey.

Determination of the potential occurrence for listed, sensitive, or noteworthy species is based upon known ranges and habitat preferences for the species (Jennings and Hayes 1994; Unitt 2004; CDFW 2020a and 2010b, 2021a and 2021b; California Native Plant Society [CNPS] 2021; Reiser 2001).

Image Source: NearMap (flown April 2021)



0 Feet 300

Project Location/
Vallecitos Water District Easement

Survey Area

Carlsbad Habitat Management Plan

Rancho Carrillo
Hardline Preserve Area*

Thread-leaved Brodiaea
Brodiaea filifolia
Final Critical Habitat (USFWS)

Coastal California Gnatcatcher
Polioptila californica californica
Final Critical Habitat (USFWS)

*Note: Entire survey area lies within Carlsbad HMP Linkage Area D

RECON

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FIGURE 4
Conservation Status

Vegetation communities were mapped within the survey area, and dominant plant species were noted for each. Vegetation communities were classified according to Holland (1986), as modified by Oberbauer et al. (2008). Plant species within the survey area were noted, although a complete inventory of ornamental and landscaping plant species was not recorded. Animal species observed directly or detected from calls, tracks, scat, nests, or other sign were noted. Nomenclature used in this letter follows the Jepson Online Interchange (Jepson Flora Project 2020), the CNPS online database (CNPS 2021), Rebman and Simpson (2014), or Brenzel (2001) for plants, San Diego Natural History Museum (2002) for invertebrates, Chesser et al. (2020) and Unitt (2004) for birds, and Baker et al. (2003) for mammals.

Seasonal factors are the primary limitation on the survey results. The survey was performed in the fall before the start of the seasonal rainfall. As a result, few plants were in flower, and many annuals and perennial plants were dead or still dormant for the dry season.

3.0 Results

3.1 Physical Characteristics

The project is located on largely undeveloped land bounded to the west, south, and northeast by single-family residential developments. It is situated along a north-facing graded fill slope centered on a graded pathway that extends from Melrose Drive to a graded dirt road approximately 160 feet east of Paseo Privado. From that point, it proceeds through a landscaped pocket park east to Paseo Privado. Elevations range from 288 feet above mean sea level (amsl) at the bottom of the slope just east of Melrose Drive to 350 feet amsl in Paseo Privado at the eastern end of the survey area.

Four soil series are mapped within the survey area: Altamont clay, Gaviota fine sandy loam, Las Posas stony fine sandy loam, and Salinas clay (Figure 5; USDA 1973).

Altamont clay is a well-drained clay soil type formed from calcareous shale. It occurs primarily in uplands at elevations between 200 and 600 feet amsl. It primarily supports grasslands and areas of scattered shrubs. This is the primary soil type underlying the majority of the District easement, and is also found at the far northern and far southeastern edges of the survey area.

Gaviota fine sandy loam consists of shallow soils formed from weathered marine sandstone. It occurs in uplands at elevations from 300 to 500 feet amsl. In areas of intact habitat, it is known to primarily support coastal sage scrub and transitional chaparral habitats. This soil series is mapped in the eastern portion of the survey area, in largely developed or landscaped areas.

Las Posas stony fine sandy loam is a well-drained, moderately deep soil series with a clay subsoil. It is formed from weathered igneous rocks and occurs on uplands at elevations between 200 and 3,000 feet amsl. In undeveloped areas, Las Posas soils support primarily coastal sage scrub and mixed or scrub oak chaparral habitats. This soil series is mapped throughout most of the northern portion of the survey area.

Image Source: NearMap (flown April 2021)

Project Location/
Vallecitos Water District Easement

Survey Area

0 Feet 300

Soil Type

- Altamont clay, 9 to 15 percent slopes
- Altamont clay, 15 to 30 percent slopes
- Gaviota fine sandy loam, 9 to 30 percent slopes
- Las Posas stony fine sandy loam, 9 to 30 percent slopes
- Salinas clay, 0 to 2 percent slopes

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FIGURE 5
Soils

Salinas clay soils occur generally in floodplains and alluvial fans and consist of sediment washed from Diablo, Linne, Las Flores, Huerhuero, and Olivenhain soils. It is found at elevations from 25 to 300 feet amsl and primarily supports grasslands with scattered shrubs. This soil type occurs at the eastern tip of the survey area, in areas that were historically graded for construction of Melrose Drive.

3.2 Vegetation Communities

Seven vegetation communities were mapped within the study area: freshwater marsh, southern riparian scrub, mule fat scrub, native grassland, Diegan coastal sage scrub, disturbed habitat, and developed land (Figure 6 and Table 1). Freshwater marsh, southern riparian scrub, mule fat scrub, native grassland, and Diegan coastal sage scrub are considered sensitive vegetation communities.

Table 1
Vegetation Communities within the Survey Area
(acres)[1]

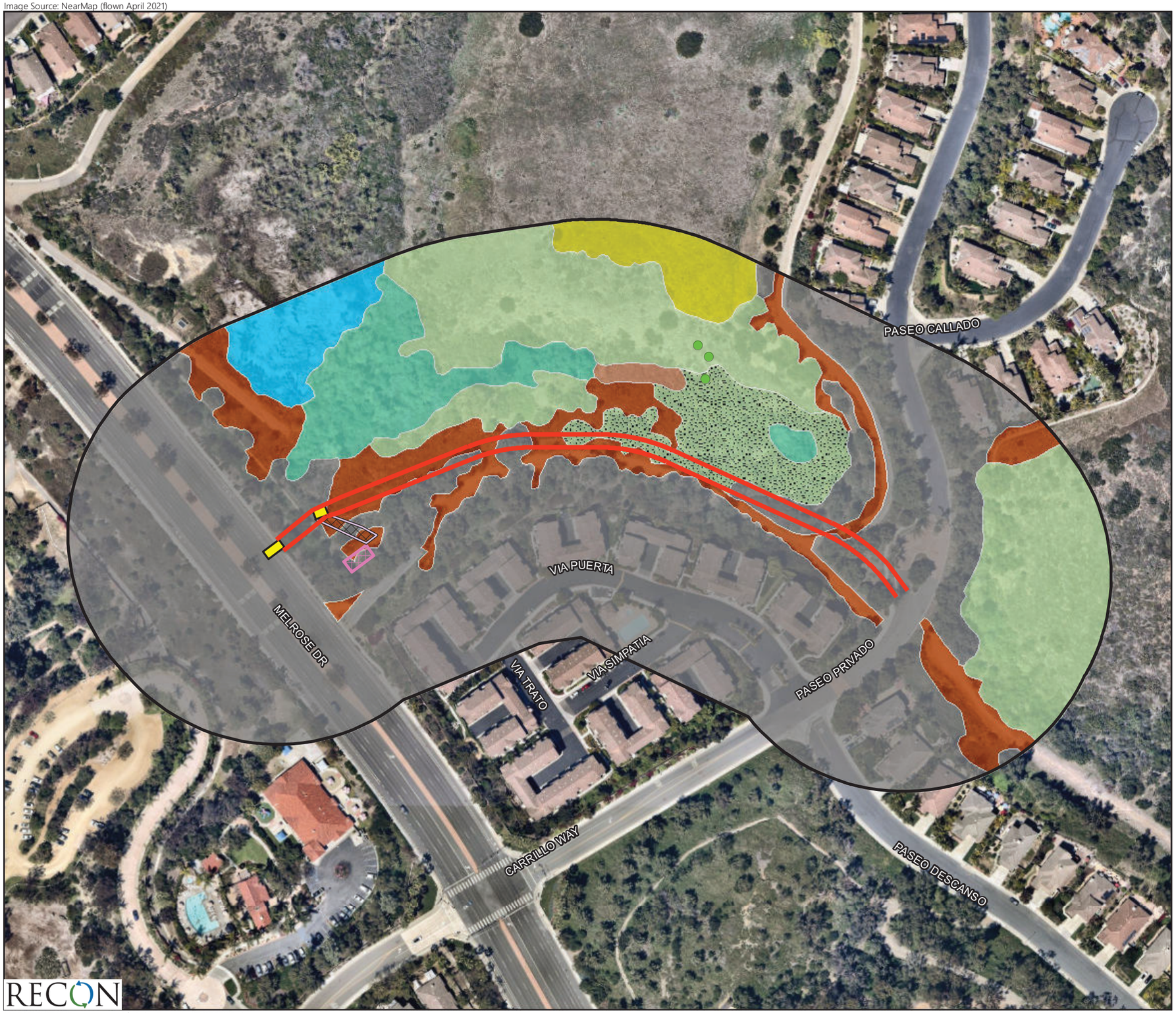
Vegetation Community	Carlsbad HMP Group	Survey Area	Project Impacts
Freshwater marsh	A	0.57	-
Southern riparian scrub	A	1.14	-
Mule fat scrub	A	0.09	-
Native grassland	B	0.54	-
Diegan coastal sage scrub	C/D[2]	4.97	-
Disturbed habitat	F	2.11	0.02
Urban/developed land	NA	12.45	0.04
TOTAL		21.88	0.06

[1]Totals may differ due to rounding.
[2]Per the Carlsbad HMP, coastal California gnatcatcher-occupied coastal sage scrub is considered Group C, whereas unoccupied coastal sage scrub is Group D.

Freshwater marsh occurs in the northwestern portion of the survey area. This area has a nearly 100 percent cover of native emergent monocots, including bulrush (*Schoenoplectus* sp.) and cattail (*Typha latifolia*) situated at the base of the slope east of Melrose Drive. There is a 10-foot-wide concrete culvert providing hydrologic connectivity to the municipal storm drain system. Freshwater marsh is considered a Carlsbad HMP Group A vegetation community.

Southern riparian scrub occurs in two patches approximately 50 feet north and downhill of the District easement (see Figure 4). The western patch occurs just south of the freshwater marsh and extends eastward. The eastern patch occurs at the base of two slopes – the north-facing slope below the District easement and a west-facing slope below Paseo Privado and associated homes. These areas consist primarily of dense arroyo willow (*Salix lasiolepis*) shrubs with occasional laurel sumac (*Malosma laurina*), and one large gum tree (Eucalyptus sp.). Vegetation cover in the southern riparian scrub is nearly 100 percent. Southern riparian scrub is considered a Carlsbad HMP Group A vegetation community.

Image Source: NearMap (flown April 2021)



Project Location/
Vallecitos Water District Easement

Access Pits

Grading Area

Staging Area

Survey Area

Sensitive Species

California Adolphia
(*Adolphia californica*)

Vegetation Communities

HMP Group A

Freshwater Marsh

Mule Fat Scrub

Southern Riparian Scrub

HMP Group B

Native Grassland

HMP Group C

Diegan Coastal Sage Scrub -
Assumed Gnatcatcher Occupied

HMP Group D

Diegan Coastal Sage Scrub -
Not Gnatcatcher Occupied

HMP Group F

Disturbed Habitat

No HMP Group

Urban/Developed

0 Feet 150

RECON

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FIGURE 6
Existing Biological Resources and Impacts

Mule fat scrub occurs as a single strip along the drainage just east of the large patch of southern riparian scrub. This vegetation community is dominated by mule fat (*Baccharis salicifolia*), with lesser amounts of coyote bush (*Baccharis pilularis*), pampas grass (*Cortaderia selloana*), and arroyo willow. Vegetation cover is approximately 65 percent. Mule fat scrub is considered a Carlsbad HMP Group A vegetation community.

Native grassland occurs in the far northern portion of the survey area, approximately 200 feet north of the District easement. This area is dominated by native bunch grasses (*Stipa* sp.) interspersed with dead non-native annual grasses, as well as scattered California sagebrush (*Artemisia californica*), coast prickly pear (*Optuntia littoralis*), and wreath plant (*Stephanomeria* sp.). Overall vegetation cover in the native grassland is approximately 35 percent; however, this cover likely increases substantially following germination of annual grasses in the spring and summer. This vegetation community is considered a Carlsbad HMP Group B vegetation community.

Diegan coastal sage scrub is the most common native vegetation community within the survey area (see Figure 6 and Table 1). This vegetation community is considered a Carlsbad HMP Group C or D vegetation community depending on the presence or absence of coastal California gnatcatchers. The habitat on the slopes within and adjacent to the District easement, supports vegetation cover of approximately 60 percent, dominated large shrubs such as laurel sumac, lemonade berry (*Rhus integrifolia*), toyon (*Heteromeles arbutifolia*), coyote brush and blue elderberry (*Sambucus nigra* ssp. *caerulea*), with scattered coast live oak (*Quercus agrifolia*) trees. This habitat is largely not suitable for coastal California gnatcatcher and would be considered a Group D habitat. However, the northern and eastern portions of the survey area support more open habitat, with approximately 40 percent cover, dominated by coastal goldenbush (*Isocoma menziesii*), California sagebrush, and coast prickly pear, and lemonade berry, with scattered native grasses. These areas are much more suitable for coastal California gnatcatcher and would be considered Group C vegetation community.

Disturbed habitat is considered a Carlsbad HMP Group F vegetation community. It occurs primarily within and along the edges of the dirt trails throughout the survey area (see Figure 6). The trails are largely bare and much of the immediate surrounding areas contain a thick mulch layer preventing vegetation growth. Vegetated areas are dominated by non-native species, including fennel (*Foeniculum vulgare*), Mediterranean barley (*Schismus barbatus*), short-pod mustard (*Hirschfeldia incana*), bristly ox-tongue (*Helminthotheca echioides*), and Russian thistle (*Salsola tragus*).

Urban/developed land consists of graded, developed areas with existing structures or pavement, as well as landscaped areas associated with the adjacent developments within private property. In addition to existing roadways and residential properties, urban/developed land includes landscaped slopes along the edges of Melrose Drive and Paseo Privado, adjacent to the existing homes in the southern portion of the survey area, and at the upper slopes adjacent to the main east-west pathway in the southern portion of the survey area. Common species include Brazilian pepper (*Schinus molle*), queen palm (*Syagrus romanzoffiana*), Indian hawthorn (*Raphiolepis* sp.), pygmy date palm (*Phoenix roebellienii*), bird of paradise (*Strelitzia* sp.), American century plant (*Agave americana*), and fountain grass (*Pennisetum* sp.). Urban/developed land has not been assigned a habitat group per the Carlsbad HMP.

3.3 Plant and Animal Species

A total of 43 plant species was detected in the survey area, including 15 native and 28 non-native species (Attachment 1). Six wildlife species were detected during the survey: northern mockingbird (*Mimus polyglottos polyglottos*) house finch (*Haemorhous mexicanus frontalis*), American crow (*Corvus brachyrhynchos*), California towhee (*Melozone crissalis*), Cassin's kingbird (*Tyrannus vociferans*), and bushtit (*Psaltriparus minimus*). These are common species that are typically found in urban areas and adjacent native habitats.

3.4 Sensitive Biological Resources

3.4.1 Sensitivity Criteria

Sensitive vegetation communities are vegetation assemblages or associations that have cumulative losses within the region, have relatively limited distribution, support or potentially support sensitive species, have high value to other wildlife, or a combination of these characteristics. Sensitive vegetation communities are regulated by local, state, and federal resource agencies. For purposes of this report, sensitive vegetation communities include those identified as Group A through F habitats by the HMP (City of Carlsbad 2004).

Species are considered sensitive if they meet any of the following criteria:

- Covered by the HMP (City of Carlsbad 2004 and 2008)
- Listed by state or federal agencies as threatened or endangered or are proposed for listing
- Considered rare, endangered, or threatened by CDFW (2020a and 2020b, 2021a and 2020b)
- Included on CNPS California Rare Plant Ranks 1, 2, 3, or 4 (CNPS 2021)

Impacts to sensitive vegetation communities or species are considered significant impacts. Impacts to state or federally listed species require permits from the USFWS or the CDFW.

Nesting migratory birds and raptors (birds of prey) are protected by the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC) Sections 3503 and 3503.5. These regulations make it unlawful to take, possess, or destroy the nests or eggs of migratory birds and raptors without authorization (State of California 1991).

Wetlands and riparian habitats that are subject to federal and state jurisdiction pursuant to the federal Clean Water Act and the CFGC are considered sensitive resources (City of Carlsbad 2008).

3.4.2 Sensitive Vegetation Communities

Based on the criteria described above, five sensitive vegetation communities occur within the survey area: freshwater marsh, southern riparian scrub, mule fat scrub, native grassland, Diegan coastal sage scrub, and disturbed habitat (see Figure 6). Of these, only Diegan coastal sage scrub and disturbed habitat occur within the District easement.

3.4.3 Sensitive Plant Species

One sensitive species, California adolphia (*Adolphia californica*), was observed within the survey area. One additional sensitive species – thread-leaved brodiaea – has potential to occur in the survey area. An assessment of these and other sensitive plant species to occur within the survey area is presented in Attachment 2.

3.4.3.1 California Adolphia

California adolphia is not state or federally listed but is identified by the CNPS as a California Rare Plant Rank (CRPR) 2B.1 species, meaning it is highly at risk in California but is more common elsewhere (CNPS 2021). Three California adolphia shrubs were observed within the Diegan coastal sage scrub in the central portion of the site. The nearest of these was mapped approximately 100 feet north of the District easement (see Figure 6). The habitat within the District easement occurs on a manufactured slope and is less suitable to support this species. In addition, it is a moderate-sized shrub and any individuals within the District easement have been detected if present.

3.4.3.2 Thread-leaved Brodiaea

Thread-leaved brodiaea is state listed as endangered, federally listed as threatened, and is a CRPR 1B.1 species, meaning it is considered rare and seriously at risk throughout its range (CDFW 2021a, USFWS 1998, CNPS 2021). The USFWS designated critical habitat for thread-leaved brodiaea in 2005, and revised it in 2011 (USFWS 2005 and 2011). The northern portion of the survey area, including a portion of the District easement lies within critical habitat. This species was not detected during the biological survey; however, there is a CNDDB record of a large population that overlaps with the northern portion of the survey area. Thread-leaved brodiaea is expected to occur throughout the native grassland and the open coastal sage scrub to the north of the southern riparian scrub and mule fat scrub. It is not expected to occur within the District easement as the easement lies on a manufactured slope and is dominated by dense coastal sage scrub and exotic vegetation.

3.4.4 Sensitive Animal Species

No sensitive animal species were detected within the survey area; however, four sensitive species have moderate to high potential to occur: Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), coastal California gnatcatcher, southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and San Diego black-tailed jackrabbit (*Lepus californica bennettii*). Each of these species is discussed below. An assessment of these and other sensitive wildlife species to occur within the survey area is presented in Attachment 3.

3.4.4.1 Belding's Orange-throated Whiptail

Belding's orange-throated whiptail is a CDFW watch list species and a Carlsbad HMP List 1 species (CDFW 2021a, City of Carlsbad 2004). This species ranges from the coast to the Peninsular mountain ranges from the Santa Ana River in Orange County and Colton in San Bernardino County, south to the tip of Baja California, Mexico (Stebbins and McGinnis 2018). It occurs in a variety of habitats and is most common in sandy areas of low, open sage scrub or chaparral, particularly where there is California buckwheat (*Eriogonum fasciculatum*), sage (*Salvia* spp.), or chamise (*Adenostoma*

fasciculatum; Lemm 2006). This species feeds primarily on termites (*Reticulitermes* sp.), which comprise 86 percent or more of the lizard's diet (Bostic 1966). It is active during spring and summer, but is largely dormant during the fall and winter, when temperatures drop (Jennings and Hayes 1994). Breeding occurs in spring and eggs are laid in June and July. The decline of this species is attributed to habitat loss and fragmentation, with approximately 75 percent of its historic range lost to development (McGurty 1980; Stebbins and McGinnis 2018).

The coastal sage scrub, southern riparian scrub, and native grassland, as well adjacent areas of disturbed habitat in the survey area all provide suitable habitat for this species. There are multiple database records of this species within two miles of the survey area, including one in the habitat just east of Paseo Privado (CDFW 2021b). Therefore, this species has high potential to occur in the survey area, including in the Diegan coastal sage scrub and disturbed habitat within the District easement.

3.4.4.2 Coastal California Gnatcatcher

The coastal California gnatcatcher is federally listed as threatened, a CDFW species of special concern, and a Carlsbad HMP List 1 species (USFWS 2010, CDFW 2021a, City of Carlsbad 2004). It is a nonmigratory, resident species found on the coastal slopes of southern California ranging from Ventura County southward through Los Angeles, Orange, Riverside, and San Diego counties into Baja California, Mexico (Atwood and Bontrager 2001; USFWS 2010). It typically occurs in or near mature coastal sage scrub dominated by low (less than three feet) shrub and sub-shrub species (Atwood and Bontrager 2001). This species' ideal host shrub is California sagebrush (*Artemisia californica*), but it will also nest in California buckwheat (*Eriogonum fasciculatum*), common encelia (*Encelia californica*), and broom baccharis (*Baccharis sarothroides*; Unitt 2004). Other habitats used by coastal California gnatcatcher include chaparral, grassland, and riparian scrub; disturbed habitats are used where they occur adjacent to sage scrub (Atwood and Bontrager 2001). It feeds mainly on sessile small arthropods, such as leafhoppers, spiders, beetles, and true bugs (Atwood and Bontrager 2001).

No coastal California gnatcatchers were detected during the biological survey; however, protocol surveys have not been conducted. There is suitable coastal sage scrub habitat in the northern portion of the survey area and in the large swath of habitat to the east of Paseo Privado. The coastal sage scrub along the District easement is dominated by taller shrubs such as laurel sumac, lemonade berry, and toyon, which are not optimal for nesting. There are numerous database records of this species within two miles of the project site (CDFW 2020b; USFWS 2020), including just east of Paseo Privado. In addition, the survey area is located largely within gnatcatcher critical habitat. Based on these factors, coastal California gnatcatcher has high potential to nest in the survey area, but low potential within the District easement.

3.4.4.3 Southern California Rufous-crowned Sparrow

The southern California rufous-crowned sparrow is a CDFW watch list species and a Carlsbad HMP List 1 species (CDFW 2020a, City of Carlsbad 2004). Its range extends from Los Angeles County south to Baja California, Mexico (Collins 1999). Southern California rufous-crowned sparrows nest and forage in sage scrub, broken or burned chaparral habitats, and grasslands with scattered shrubs. The species exhibits a strong preference for moderate to steep, south-facing, dry, rocky slopes with a 50

percent cover of low shrubs but will also use gently rolling slopes (Unitt 2004; Collins 1999). Nests occur primarily on the ground at the base of bunch grasses but may also be built at the base of native shrub or on dirt clods. Breeding occurs from March through June, and pair–bonds are formed that may last year-round (Collins 1999).

The coastal sage scrub throughout the survey area is suitable to support the species. There are several database records of this species within two miles of the survey area, including within the Diegan coastal sage scrub to the east of Paseo Privado just in the undeveloped areas beginning approximately 0.1 mile east of the survey area (CDFW 2020b; County of San Diego 2020). Based on these records and the presence of suitable habitat, this species has moderate potential to occur in the survey area, including within the District easement.

3.4.4.4 San Diego Black-Tailed Jackrabbit

The San Diego black-tailed jackrabbit is a CDFW species of special concern (CDFW 2021a). It ranges from southern Kern County southward and west of the Peninsular Range into Baja California (Hall 1981). It occupies open or semi-open habitats, such as coastal sage scrub and open chaparral, though thick chaparral and rugged or rocky areas are not suitable (Bond 1977, Tremor et al. 2017). The San Diego black-tailed jackrabbit breeds throughout the year, with the greatest number of births occurring from April through May. It is strictly herbivorous, preferring habitat with ample forage such as grasses and forbs.

The native grassland, Diegan coastal sage scrub, native grassland, and disturbed habitat in the northern portion of the survey area are suitable for this species; however, the coastal sage scrub along the manufactured slopes and within the District easement are likely too dense for this species. The nearest database record of this species is from a 2006 observation approximately 0.8 mile northwest of the survey area (County of San Diego 2020). Based on these factors, this species has moderate potential to occur in the survey area, but low potential in the District easement.

3.4.5 Jurisdictional Wetlands and Waters

A formal jurisdictional delineation was not conducted because there are no drainages or potential wetlands within the District easement. However, the freshwater marsh, southern riparian scrub, and mule fat scrub in the northern portion of the survey area would likely be considered wetlands under United States Army Corps of Engineers, Regional Water Quality Control Board, and CDFW jurisdiction. As shown in Figure 6, the southern riparian scrub and mule fat scrub occur approximately 50 feet north of the District easement.

3.4.6 Wildlife Movement Corridors

Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Wildlife movement corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas;

and facilitate the exchange of genetic traits between populations (Beier and Loe 1992). Wildlife movement corridors are considered sensitive by resource and conservation agencies.

The survey area is situated along the southern edge of an open space identified by the Carlsbad HMP as Linkage Area D (City of Carlsbad 2004). The large, undeveloped areas of native habitat that comprise the majority of Linkage Area D lie generally at the northern and eastern edges of the survey area, outside the District easement. Wildlife movement through the survey area is constrained to the west and south by existing development. Thus, wildlife movement would largely be directed to the north and, to a lesser extent, to the east, across Paseo Privado. East of Paseo Privado, there is a large expanse of undeveloped land extending east through San Marcos to Lake Hodges and beyond. Thus, while the survey area is part of an identified Linkage Area, it lies at the edge of the corridor and wildlife movement through the site is constrained.

3.5 City of Carlsbad HMP

3.5.1 Functions of the HMP

The Carlsbad HMP is a comprehensive, citywide program identifying how the City of Carlsbad, in cooperation with federal and state wildlife agencies, can preserve the diversity of habitat and protect sensitive biological resources within the city while allowing for additional development consistent with the General Plan and Growth Management Plan (City of Carlsbad 2004).

3.5.2 City of Carlsbad HMP Preserve System

The Carlsbad HMP has established a preserve system to provide adequate conservation for listed and covered species. The preserve system includes existing hardline preserve areas (existing dedicated open space), proposed hardline preserve areas (proposed open space), and proposed standards areas (planned open space).

The HMP identifies FPAs based on existing distribution of vegetation communities and sensitive species in the city of Carlsbad. The FPAs are further broken down into HMP Core, Linkage, and Special Resource areas. HMP Core Areas are large blocks of habitat capable of sustaining threatened, listed, or sensitive species over time. Linkage Areas are wildlife movement corridors that ensure connectivity to HMP Core Areas and to natural communities in adjoining jurisdictions and the region, while also preserving additional habitat. Special Resource Areas are areas outside of the HMP Core and Linkage areas that are defined as having vernal pools, significant populations of listed plant species, and/or movement corridors for large mammals. These areas serve as a basis for biological planning for the preserve system (City of Carlsbad 2004).

3.5.3 Project Site in Relation to HMP Preserve System

As noted in Section 1, the survey area does not lie within a Carlsbad HMP Core Area or Special Resource Area, but it does lie primarily within Linkage Area D, which provides connectivity between the nearby Core Areas 5 and 7 (see Figure 4; City of Carlsbad 2004).

Section 5.2.1 of the HMP provided guidance for development projects within existing Hardline Preserve Areas. Most of the survey area, including the District easement, is within the Rancho Carrillo Open Space, a private open space dedicated as part of the Carlsbad's Hardline Preserve. The proposed project consists of pipeline repair within an existing easement, so it would not be considered new development.

Section 5.3 of the HMP provides general regulations and conditions for coverage for all HMP covered species. All projects are required to comply with these regulations. The general guidelines relevant to the proposed project, as well as how the project would comply with them, are provided below. Conditions for covered species are addressed in the impact discussions Section 4 below.

> *Impacts to uplands must be avoided and/or minimized to the maximum extent possible.*
>
> The proposed project would be largely limited to the existing District easement and the Diegan coastal sage scrub and disturbed habitat that are impacted by the project would be revegetated with a native coastal sage scrub seed mix following completion. Therefore, impacts to uplands would be minimized.
>
> *Clearing and grubbing are prohibited during wildlife breeding seasons (Zoning Ordinance 21.210.040); this includes covered bird species, migratory birds, and raptors. All construction activities are prohibited within 300 feet of an active nest, (500 feet for listed species).*
>
> Section 5.1 describes avoidance measures that would be implemented to comply with this guideline, as well as the federal MBTA and CFGC 3503 and 3503.5.

Section 5.4 of the HMP provides special requirements for projects within or adjacent to the Hardline Preserve. These requirements are provided below.

> *Fuel management. Where existing Hardline Preserve areas are adjacent to existing developed areas, the fuel management zone may continue to encroach into the preserve. However, where new development or preservation is planned, fuel management must be incorporated within the development boundaries and cannot encroach into the preserve.*
>
> The proposed project would not require new fuel management zones, so this requirement would not apply.
>
> *Positioning of fuel modification areas. Fuel reduction zones, fire breaks and access routes should be positioned to (1) avoid sensitive biological resources, (2) be located at the top or bottom of (not across) a slope, or (3) be located along existing fire breaks where available.*
>
> The proposed project would not require new fuel management zones, so this requirement would not apply.
>
> *Erosion control measures should be implemented to avoid new surface drainage or erosion within or near the preserve.*
>
> All necessary erosion control BMPs, including silt fence, fiber rolls, and hydromulch, will be applied as necessary to prevent erosion into the preserve.

The use of non-native or invasive plant species in landscaping for public projects adjacent to preserves is prohibited.

No landscaping is proposed as part of the project; no plant species identified on the California Invasive Plan Council "moderate" or high" lists (California Invasive Plant Council 2021) would be included in any proposed revegetation plant palettes.

Native plants used for restoration or revegetation should be obtained from local genetic stock to avoid genetic contamination of native species.

Revegetation plant palettes will use local stock to the degree feasible.

Irrigation runoff should be prevented from entering into the preserve from adjacent landscaping to reduce nitrogen, pesticides, and excess moisture.

No landscaping is proposed as part of the project, and any necessary irrigation of revegetated areas would be applied at rates that prevent runoff into the preserve.

Signage and fencing should be used as necessary to prevent harmful or unauthorized use of the adjacent preserve, and to protect animals from roadkill mortality. Fences that restrict animal movement across movement corridors and habitat linkages should be removed.

No new permanent fencing would be installed as part of the proposed project. Temporary orange fencing may be installed during construction activities for safety purposes and would be removed following completion.

Lighting adjacent to preserves should be reduced (low pressure sodium lighting) and/or shielded.

No new lighting is anticipated as part of the project.

Noise. The use of noise generating equipment should be avoided during the breeding season. Noise levels inside the preserve should not exceed 60 A-weighted decibels hourly average (60 dB[A] L_{eq}).

Avoidance measures to prevent impacts to nesting birds during the breeding season are presented in Section 5.1 below. Noise in excess of 60 dB(A) L_{eq} would be prevented.

Public outreach should be used to educate the residents of adjacent neighborhoods about not using invasive species in landscaping, overuse of pesticides and fertilizers, and the problem of unleashed pets and pet waste.

The project would not be considered new development, and there would be no overall change in land use within the preserve. It would not have an effect on landscaping use in the adjacent neighborhoods.

4.0 Evaluation of Project Impacts

The biological impacts for this project were assessed according to the City's Biology Guidelines (City of Carlsbad 2008), HMP (City of Carlsbad 2004), and the California Environmental Quality Act. Mitigation is required for impacts that are considered significant under these guidelines.

Project implementation would result in permanent direct impacts, as well as potential indirect impacts. Impacts are considered direct when they result in an immediate physical change (e.g., vegetation removal, grubbing, grading, excavation) of the environment. Indirect impacts are secondary changes in the environment that are caused by a project but occur later in time or at a different place. For example, generation of dust, noise, lighting, and erosion could result in indirect impacts to plants, wildlife, and/or waterways.

4.1 Vegetation Communities

All proposed impacts would be considered temporary, as the areas impacted by the project would be revegetated following construction. The proposed project would impact a total of 0.06 acre, including 0.02 acre of disturbed habitat and 0.04 acre of urban/developed land (see Table 1 and Figure 6). Neither if these is considered sensitive per the Carlsbad HMP, so no mitigation would be required. No impacts would occur to freshwater marsh southern riparian scrub, mule fat scrub, Diegan coastal sage scrub, or native grassland.

4.2 Sensitive Plant Species

The project is not expected to impact any sensitive plant species. The three California adolphia detected during the biological survey were found outside the impact area and no individuals are expected to occur District easement. Thread-leaved brodiaea is known to occur in the northern portion of the survey area but is not expected to occur within the District easement.

4.3 Sensitive Wildlife Species

The project has potential to directly and/or indirectly impact sensitive wildlife species, as well as avian species protected by the MBTA and CFGC 3503 and 3503.5. For purposes of impact assessment, this report incorporates a breeding season of March 1 to August 15 for coastal California gnatcatcher and February 15 to August 31 for general migratory birds (including southern California rufous-crowned sparrow). Potential impacts to each of the sensitive species with moderate to high potential to occur in the survey area is discussed below.

4.3.1 Belding's Orange-throated Whiptail

Belding's orange-throated whiptail has high potential to occur in the disturbed habitat within the impact area. Therefore, the project has potential to cause direct impacts to this species through incidental mortality during vegetation clearing and grading. The suitable habitat within the proposed impact area comprises a small fraction of the habitat available to this species both at a local level

(i.e., in the open space to the north and east of the impact area) and on a regional scale. Therefore, the impact to this species would be considered less than significant.

The Carlsbad HMP has the following condition of coverage for this species:

> *The long-term preserve management plan shall provide area specific management directives for known or likely locations of orange-throated whiptail, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts*.
>
> The proposed project does not include any new development and would not result in long-term loss of habitat, as the impacted areas of disturbed habitat would be revegetated following construction. Therefore, detrimental edge effects from development, recreation, or other factors are not anticipated.

4.3.2 Coastal California Gnatcatcher

Coastal California gnatcatcher has high potential to occur in the survey area but is not expected to occur in the impact area. Therefore, the proposed project is not expected to cause direct impacts to this species. However, if vegetation clearing and construction activities occur during the coastal California gnatcatcher breeding season (March 1 to August 15), indirect impacts from construction noise may disrupt gnatcatcher breeding activities and affect nesting success. Construction noise in excess of 60 dB(A) L_{eq} would be considered a significant impact.

The Carlsbad HMP has the following conditions of coverage for this species:

> *75 percent of gnatcatchers shall be conserved within Standards Areas.*
>
> The survey area is not located within a Standards Area, so this condition would not apply.
>
> *Preserve management plans must include management directives for all conserved gnatcatcher locations and any other potential habitat, including specific measures to address control of domestic pets, to reduce other edge effects, to minimize disturbance during the nesting season, and to reduce the potential for habitat degradation due to unplanned fire.*
>
> The proposed project is not expected to have a long-term effect on gnatcatcher occupancy and will include measures to avoid work during the breeding season. It would not result in an increase in domestic pet access, unplanned fire, or other edge effects within the surrounding habitat.
>
> *Adaptive management may include measures to maintain or improve overall habitat quality, including vegetation structure.*
>
> The project would not result in a long-term loss of habitat, as the impacted Diegan coastal sage scrub and disturbed habitat would be revegetated with a coastal sage scrub seed mix.
>
> *No clearing of occupied habitat may occur between March 1 and August 15.*

The proposed avoidance measures described in Section 5 would prevent clearing of coastal California gnatcatcher-occupied habitat during the breeding season.

4.3.3 Southern California Rufous-crowned Sparrow

Southern California rufous-crowned sparrow has moderate potential to nest in the Diegan coastal sage scrub within the survey area but is not expected to nest in the impact area. Therefore, the project is not anticipated to impact this species.

The Carlsbad HMP has the following conditions of coverage for this species:

> *The long-term preserve management plan shall provide area specific management directives for known or likely locations of rufous-crowned sparrow, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.*
>
> The proposed project does not include any new development and would not result in long-term loss of habitat. All impacted areas of disturbed habitat would be revegetated following construction. Therefore, detrimental edge effects from development, recreation, or other factors are not anticipated.

4.3.4 San Diego Black-tailed Jackrabbit

San Diego black-tailed jackrabbit has moderate potential to occur within the survey area but low potential to occur in the impact area. Therefore, no impacts to San Diego black-tailed jackrabbit are anticipated. Moreover, any potential impacts that may occur would be considered less than significant due to the low level of sensitivity and general abundance of San Diego black-tailed jackrabbits in the area and the high mobility of the species to avoid construction activity. As San Diego black-tailed jackrabbit is not a covered species, no additional measures are required for this species.

4.3.5 Migratory Birds

The MBTA and CFGC Sections 3503 and 3503.5 regulate direct impacts to migratory birds and raptors. No raptor species are anticipated to nest within the survey area; however, there is potential for migratory birds to do so. Therefore, migratory birds may be directly impacted if removal of Diegan coastal sage scrub occurs during the general bird breeding season (February 15 to August 31). Direct impacts to nesting migratory birds would be considered significant. Avoidance measures to prevent such direct impacts are presented in Section 5.

4.4 Jurisdictional Wetlands and Waters

The project consists of pipeline repair within the existing District easement, and all impacts would occur within the easement, which is located approximately 50 feet south and uphill from the nearby wetland habitats (freshwater marsh, southern riparian scrub, and mule fat scrub). Appropriate BMPs

including silt fencing, fiber roll, hydromulch, and/or other appropriate measures would be implemented to prevent indirect impacts such as erosion or release of sediment into the wetlands. Therefore, no direct or indirect impacts to potential jurisdictional wetlands or waters would occur.

4.5 Impacts to Wildlife Corridors

As the project consists of repair of an existing pipeline, all impacts would occur within previously impacted areas and no new developed areas would be created. While the survey area is within a Linkage Area identified in the Carlsbad HMP, all impacts would be temporary and there would be no long-term effects on the corridor function. Thus, the proposed project would not result in significant impacts to wildlife corridors.

5.0 Mitigation Measures

The proposed project has the potential to result in significant impacts to sensitive biological resources. Mitigation measures shall be implemented to either prevent significant impacts or reduce them to a level of less than significant.

5.1 Mitigation Measures for Vegetation Communities

Proposed temporary impacts to disturbed habitat, a Group F vegetation community, would be mitigated at a ratio of 1:1, as shown in Table 2. Impacts to disturbed habitat would be mitigated through revegetation with a native sage scrub seed mix. As noted in the project description, landscaped areas of urban/developed land that would be impacted would be revegetated with an erosion control hydroseed mix. Revegetated areas would be subject to 25 months of maintenance and monitoring.

Table 2
Mitigation for Impacts to Vegetation Communities
(acres)

Vegetation Community/ Land Cover Type	Carlsbad HMP Group	Impacts	Mitigation Ratio	Mitigation Requirement
Disturbed habitat	F	0.02	1:1	0.02[1]
Urban/developed land	NA	0.04	-	-
TOTAL		0.06		0.02

[1]Mitigation would occur through revegetation of the impacted area with a native coastal sage scrub seed mix.

5.2 Mitigation for Impacts to Sensitive Plants

The project is not expected to impact California adolphia or thread-leaved brodiaea, so no mitigation would be required.

5.3 Mitigation for Impacts to Sensitive Wildlife

Proposed impacts to Belding's orange-throated whiptail would be less than significant. Impacts to coastal California gnatcatcher, southern California rufous-crowned sparrow, and migratory birds protected by the MBTA, CFGC, and Carlsbad HMP would be mitigated through implementation of the following measures during construction:

1. Silt fencing, straw wattles, and/or other relevant erosion control BMPs are recommended to contain soil, sediment and other materials within the designated work areas and prevent erosion and deposition onto native vegetation in the surrounding areas.
2. A biological monitor should be present during vegetation clearing to verify that construction remains within the approved limits of disturbance and to assist the construction crew in minimizing impacts to potentially occurring sensitive species.
3. Construction should be timed to avoid the breeding season for coastal California gnatcatcher (March 1 to August 15), and southern California rufous-crowned sparrow and other avian species protected by the MBTA and CFGC (February 15 to August 31). If construction must occur during this period, additional measures should be implemented as follows:
    a. Pre-construction surveys should be conducted for coastal California gnatcatcher by a qualified biologist with experience performing protocol surveys for the species. A total of two survey visits should be performed, including one within seven days of the start of construction. If no gnatcatchers are detected within 300 feet of the project impact areas, no additional measures will be needed for this species. If coastal California gnatcatchers are detected, no construction may occur within 300 feet of occupied habitat until the end of the breeding season.
    b. A pre-construction clearance survey within the impact area should be conducted for other avian species protected by the MBTA and CFGC Sections 3503 and 3503.5. This could be conducted concurrently with the pre-construction survey in 3(a) or separately. If no nesting birds are detected in the impact area, no additional measures would be required. If nesting birds are detected within the impact area, a construction avoidance buffer would be required around the nest to ensure no construction activities may occur within the buffer until the end of the breeding season or after the nest is no longer active. The radius of the avoidance buffer would be determined based on the species and location of the nest.
    c. If nests of any species are detected during the pre-construction surveys described in Recommendation 3(b), a biological monitor should be retained to monitor construction when activities would occur adjacent to the avoidance buffer. The biological monitor should make periodic (i.e., weekly) site visits to inspect the nest and determine whether it is active. Note that active coastal California gnatcatcher nests may only be inspected by a biologist with a coastal California gnatcatcher nest monitoring permit from USFWS.

With implementation of these mitigation measures, no significant impacts to coastal California gnatcatcher, southern California rufous-crowned sparrow, or other avian species would occur.

5.4 Wildlife Corridors

The proposed project is not expected to significantly impact wildlife corridors, so no mitigation would be required.

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ATTACHMENTS

ATTACHMENT 1

Plant Species Observed

Attachment 1 Plant Species Observed			
Scientific Name	Common Name	Habitat	Origin
ANGIOSPERMS: MONOCOTS			
AGAVACEAE	AGAVE FAMILY		
Agave americana	American century plant	NNV	I
ARECACEAE	PALM FAMILY		
Syagrus romanzoffiana	queen palm	NNV, UD	I
Phoenix canariensis	Canary Island palm	NNV, UD	I
Washingtonia robusta	Mexican fan palm	NNV	I
CYPERACEAE	SEDGE FAMILY		
Cyperus sp.	nutsedge, galingale	NNV	I
Schoenoplectus sp.	Bulrush	FWM	N
POACEAE (GRAMINEAE)	GRASS FAMILY		
Bromus hordeaceus	soft chess	NG	I
Hordeum sp.	barley	NNG	I
Pennisetum sp.	fountain grass	NNV	I
Schismus barbatus	Mediterranean schismus	DH	I
Stipa sp.	needle grass	NNG, DCSS	N
STRELITZIACEAE	BRODIAEA FAMILY		
Strelitzia sp.	bird of paradise flower	NNV	I
TYPHACEAE	CATTAIL FAMILY		
Typha sp.	cattail	FWM	N
ANGIOSPERMS: DICOTS			
ADOXACEAE	ADOXA FAMILY		
Sambucus nigra ssp. *caerulea*	blue elderberry	DCSS	N
ANACARDIACEAE	SUMAC OR CASHEW FAMILY		
Malosma laurina	laurel sumac	SRS, DCSS	N
Rhus integrifolia	lemonade berry	DCSS, EW	N
Schinus molle	Peruvian pepper tree	NNV	I
APIACEAE (UMBELLIFERAE)	CARROT FAMILY		
Foeniculum vulgare	fennel	DCSS, DH	I
ASTERACEAE	SUNFLOWER FAMILY		
Artemisia californica	California sagebrush	NG, DCSS	N
Baccharis pilularis	coyote brush	MFS, DCSS, DH, NNV	N
Baccharis salicifolia ssp. *salicifolia*	mule fat	MFS	N
Cynara cardunculus ssp. *flavescens*	cardoon, artichoke thistle	DCSS, DH	I
Erigeron canadensis	horseweed	DCSS	N
Helminthotheca echioides	bristly ox-tongue	NNV	I
Heterotheca grandiflora	telegraph weed	DCSS, DH	N
Isocoma menziesii	coastal goldenbush	DCSS	N
Lactuca serriola	prickly lettuce	NNV	I
Sonchus asper ssp. *asper*	prickly sow thistle	NNV	I
Stephanomeria sp.	wreath-plant	NG, DCSS	N

Attachment 1 Plant Species Observed			
Scientific Name	Common Name	Habitat	Origin
BRASSICACEAE (CRUCIFERAE)	**MUSTARD FAMILY**		
Brassica nigra	black mustard	NG, DH	I
Hirschfeldia incana	short-pod mustard	DCSS, DH	I
CACTACEAE	**CACTUS FAMILY**		
Opuntia littoralis	coast prickly-pear	NG, DCSS	N
CHENOPODIACEAE	**GOOSEFOOT FAMILY**		
Salsola tragus	Russian thistle, tumbleweed	DH	I
EUPHORBIACEAE	**SPURGE FAMILY**		
Euphorbia sp.	spurge	DH	I
FABACEAE	**LEGUME FAMILY**		
Acmispon glaber	deerweed, California broom	DCSS	N
FAGACEAE	**OAK FAMILY**		
Quercus agrifolia	coast live oak	DCSS, NNV	N
LAMIACEAE	**MINT FAMILY**		
Marrubium vulgare	horehound	DCSS	I
MAGNOLIACEAE	**MAGNOLIA FAMILY**		
Magnolia sp.	magnolia	UD	I
MYRTACEAE	**MYRTLE FAMILY**		
Eucalyptus sp.	gum tree	SRS	I
Lophostemon confertus	Brisbane box tree	NNV	I
RHAMNACEAE	**BUCKTHORN FAMILY**		
Adolphia californica	California adolphia	DCSS	N
ROSACEAE	**ROSE FAMILY**		
Heteromeles arbutifolia	toyon, Christmas berry	DCSS, NNV	N
SALICACEAE	**WILLOW FAMILY**		
Salix lasiolepis	arroyo willow	SRS, MFS	N
SOLANACEAE	**NIGHTSHADE FAMILY**		
Nicotiana glauca	tree tobacco	DH	I
TAMARICACEAE	**TAMARISK FAMILY**		
Tamarix sp.	tamarisk	NNV	I

HABITATS

DCSS = Diegan coastal sage scrub
DH = Disturbed habitat
FWM = Freshwater marsh
MFS = Mule fat scrub
NG = Native grassland
NNV = Non-native vegetation
SRS = Southern riparian scrub
UD = Urban/developed land

ORIGIN

N = Native to locality
I = Introduced species from outside locality

ATTACHMENT 2

Sensitive Plant Species Observed or with the Potential for Occurrence

Attachment 2 Sensitive Plant Species Observed or with the Potential for Occurrence							
Scientific Name Common Name	Sensitivity Code & Status			Habitat Preference/ Requirements	Verified On-Site	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	City of Carlsbad				
ANGIOSPERMS: DICOTS							
ASTERACEAE SUNFLOWER FAMILY							
Isocoma menziesii var. *decumbens* decumbent goldenbush	–/–	1B.2	–	Perennial shrub; chaparral, coastal sage scrub; sandy soils, often in disturbed areas; blooms April–November; elevation less than 500 feet.	No	Not Expected	This perennial evergreen shrub would likely have been observed if present. There is one database record consisting of three individuals observed in 1997 approximately 0.7 mile north of the survey area (CDFW 2020b).
Iva hayesiana San Diego marsh-elder	–/–	2B.2	List 3	Perennial herb; marshes and swamps, playas, riparian areas; blooms April–September; elevation below 1,700 feet.	No	Not Expected	This is a moderate-sized, conspicuous shrub that would likely have been detected if present. There is one record of this species dating to 1992 approximately 1.1 miles to the south of the survey area (CDFW 2020b).
BORAGINACEAE BORAGE FAMILY							
Harpagonella palmeri Palmer's grapplinghook	–/–	4.2	–	Annual herb; chaparral, coastal sage scrub, valley and foothill grasslands; clay soils; blooms March–May; elevation less than 3,200 feet. Inconspicuous and easily overlooked.	No	Moderate	Potentially suitable Altamont clay soils occur along the northern edge of the survey area. The open coastal sage scrub and native grassland in this area are moderately suitable. The habitat, including soils and vegetation, along the District easement is on a manufactured slope that is largely unsuitable for this species. There are multiple records of this species within 2 miles of the survey area (CDFW 2020b).

Attachment 2 Sensitive Plant Species Observed or with the Potential for Occurrence							
Scientific Name Common Name	Sensitivity Code & Status			Habitat Preference/ Requirements	Verified On-Site	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	City of Carlsbad				
ERICACEAE HEATH FAMILY							
Arctostaphylos glandulosa ssp. *crassifolia* Del Mar manzanita	–/FE	1B.1	NE, List 3	Perennial evergreen shrub; southern maritime chaparral; sandy soil; blooms December–April; elevation less than 1,200 feet.	No	Not Expected	This species is a large shrub and would have been identified if present within the survey area. There is one database record of this species within 2 miles of the project site – a 1997 observation near the Carlsbad racetrack approximately 1 mile to the north (CDFW 2020b).
Comarostaphylis diversifolia ssp. *diversifolia* summer holly	–/–	1B.2	List 3	Perennial evergreen shrub; chaparral; blooms April–June; elevation 100–2,600 feet.	No	Not Expected	This species is a large shrub and would have been identified if present within the survey areas. There are three database records of this species in the vicinity of the survey area, including one observed in 1990 within mixed chaparral approximately 0.3 mile to the north (CDFW 2020b).
FAGACEAE OAK FAMILY							
Quercus dumosa Nuttall's scrub oak	–/–	1B.1	List 1	Perennial evergreen shrub; closed-cone coniferous forest, coastal chaparral, coastal sage scrub; sandy and clay loam soils; blooms February–March; elevation less than 1,300 feet.	No	Not Expected	This species is a large shrub and would have been identified if present within the survey area. There is one database record of this species in the vicinity, approximately 0.7 mile to the north (CDFW 2020b).

Attachment 2 Sensitive Plant Species Observed or with the Potential for Occurrence							
Scientific Name Common Name	Sensitivity Code & Status			Habitat Preference/ Requirements	Verified On-Site	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	City of Carlsbad				
LAMIACEAE **MINT FAMILY**							
Acanthomintha ilicifolia San Diego thornmint	CE/FT	1B.1		Annual herb; chaparral, coastal sage scrub, and grasslands; friable or broken clay soils; blooms April–June; elevation less than 3,200 feet.	No	Moderate	The clay soils in the open coastal sage scrub and native grassland in the northern portion of the survey area are suitable to support this species. The denser coastal sage scrub, and disturbed habitat, as well as landscaped areas of urban/developed land within the District easement on the manufactured slopes in the central and southern portions of the survey area are not suitable. There are records of this species from surveys in 2019 on preserved lands 0.8 mile to the southwest and 0.9 mile to the north of the survey area (CDFW 2020b).
RHAMNACEAE **BUCKTHORN FAMILY**							
Adolphia californica California adolphia	–/–	2B.1	–	Perennial deciduous shrub; Diegan coastal sage scrub and chaparral; blooms December–May; elevation 100–2,500 feet.	Yes	Observed	Three individuals were detected within the open Diegan coastal sage scrub in the northern portion of the survey area. There are numerous database records of this species within two miles of the project site (CDFW 2018a). This is a moderate-sized shrub, and any individuals present within the District easement would have been detected.
Ceanothus verrucosus wart-stemmed ceanothus	–/–	2B.2	List 2	Perennial evergreen shrub; chaparral; blooms December–April; elevation less than 1,300 feet.	No	Not Expected	This species is a moderate-sized shrub and would have been identified if present within the survey area. There is a large population recorded in the Rancho La Costa Preserve approximately 1 mile to the southeast of the survey area CDFW 2020b).

Attachment 2 Sensitive Plant Species Observed or with the Potential for Occurrence							
Scientific Name Common Name	Sensitivity Code & Status			Habitat Preference/ Requirements	Verified On-Site	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
	State/ Federal Status	CNPS Rank	City of Carlsbad				
ANGIOSPERMS: MONOCOTS							
THEMIDACEAE BRODIAEA FAMILY							
Brodiaea filifolia thread-leaved brodiaea	CE/FT	1B.1	NE, List 3	Perennial herb (bulbiferous); cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools; often clay soils; blooms March–June; elevation less than 43,800 feet. California endemic. Known from San Diego, Riverside, Orange, Los Angeles, and San Bernardino counties.	No	Assumed present	A population of nearly 800,000 individuals been reported in a large patch of native grassland that extends onto extreme northern edge of the survey area (CDFW 2020b). Thus, the native grassland in the northern portion of the survey area is considered occupied; however, the disturbed habitat, landscaped areas of urban/developed land, and dense coastal sage scrub within the District easement occurs on a manufactured slope and is not suitable for this species.
Brodiaea orcuttii Orcutt's brodiaea	–/–	1B.1	–	Perennial herb (bulbiferous); closed cone coniferous forest, chaparral, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay soil; blooms May–July; elevation less than 5,600 feet.	No	Moderate	There are two records from 1990 of this species approximately 1.1 and 1.3 mile to the southeast; however, these locations appear to have been extirpated by development (CDFW 2020b). Potentially suitable habitat occurs in the northern portion of the survey area. The disturbed habitat, landscaped areas of urban/developed land, and coastal sage scrub along the District easement are on a manufactured slope and are not suitable.

Attachment 2 Sensitive Plant Species Observed or with the Potential for Occurrence							
	Sensitivity Code & Status						
Scientific Name Common Name	State/ Federal Status	CNPS Rank	City of Carlsbad	Habitat Preference/ Requirements	Verified On-Site	Potential to Occur On-Site	Basis for Determination of Occurrence Potential

FEDERAL CANDIDATES AND LISTED PLANTS

FE = Federally listed endangered
FT = Federally listed threatened

STATE LISTED PLANTS

CE = State listed endangered

CITY OF CARLSBAD

HMP = Habitat Management Plan
List 1 = Species proposed for coverage under the Carlsbad Subarea Plan
List 2 = Species coverage contingent on other Multiple Habitat Conservation Plan Subarea plans being permitted
List 3 = Species coverage contingent upon funding for management of conserved areas
NE = Narrow Endemic Species in the Multiple Habitat Conservation Plan

CALIFORNIA NATIVE PLANT SOCIETY (CNPS): CALIFORNIA RARE PLANT RANKS (CRPR)

1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.
2B = Species rare, threatened, or endangered in California but more common elsewhere. These species are eligible for state listing.
4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.
.1 = Species seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat).
.2 = Species fairly threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat).

ATTACHMENT 3

Sensitive Wildlife Species Observed or with the Potential for Occurrence

Attachment 3 Sensitive Wildlife Species Occurring or with the Potential to Occur						
Species' Common Name/ Scientific Name	Sensitivity Status		Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site?	Basis for Determination of Occurrence Potential
	State/ Federal Status	City of Carlsbad				
AMPHIBIANS (Nomenclature from Crother et al. 2017)						
PELOBATIDAE **SPADEFOOT TOADS**						
Western spadefoot *Spea hammondii*	CSC/–	–	Vernal pools, floodplains, and alkali flats within areas of open vegetation.	No	Low	The coastal sage scrub and native grassland in the northern portion of the survey area are moderately suitable; however, the coastal sage scrub along the manufactured slopes in the central portion is the site are somewhat less suitable. The only nearby record of this species within 2 miles of the survey area: a 1973 collection from approximately 0.5 to 1.5 mile southeast of the survey area, in an area that has been subsequently developed.
REPTILES (Nomenclature from Crother et al. 2017)						
IGUANIDAE **IGUANID LIZARDS**						
Coast horned lizard *Phrynosoma blainvillii* [= *P. coronatum* coastal population]	CSC/–	–	Chaparral, coastal sage scrub with fine, loose soil. Partially dependent on harvester ants for forage.	No	Low	There is one record of this species in the vicinity of the project – a 1992 observation from an undeveloped area approximately 1 mile to the south (CDFW 2021b). The coastal sage scrub in the survey area is marginally suitable to support this species. No harvester ant colonies were detected, and irrigation associated with the adjacent landscaping is likely to attract Argentine ants (*Linepithema humile*), which exclude most native ant species.

Attachment 3 Sensitive Wildlife Species Occurring or with the Potential to Occur						
Species' Common Name/ Scientific Name	Sensitivity Status		Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site?	Basis for Determination of Occurrence Potential
	State/ Federal Status	City of Carlsbad				
SCINCIDAE **SKINKS**						
Coronado skink *Plestiodon skiltonianus interparietalis*	CSC/–	–	Grasslands, open woodlands and forest, broken chaparral. Rocky habitats near streams.	No	Low	The southern riparian scrub and coastal sage scrub in the survey area are suitable for this species; however, these areas are limited in size and may not be large enough to provide suitable habitat. In addition, the habitat within the District easement is on a manufactured sloe and is largely unsuitable. The only record of this species within 2 miles of the survey area is a San Diego Natural History specimen collected in 1965 approximately 1.1 mile to the southeast.
TEIIDAE **WHIPTAIL LIZARDS**						
Belding's orange-throated whiptail *Aspidoscelis hyperythra beldingi*	WL/–	List 1	Chaparral, coastal sage scrub with coarse sandy soils and scattered brush.	No	High	There are multiple records of this species within 2 miles of the survey area, including one in the habitat just east of Paseo Privado (CDFW 2021b). The coastal sage scrub, southern riparian scrub, native grassland, and disturbed habitat in the survey area all provide suitable habitat for this species.
CROTALIDAE **RATTLESNAKES**						
Red diamond rattlesnake *Crotalus ruber*	CSC/–	–	Desert scrub and riparian, coastal sage scrub, open chaparral, grassland, and agricultural fields. Prefers abundant rock outcrops.	No	Low	There are no records of this species within 2 miles of the survey area. Despite the presence of coastal sage scrub habitat is the survey area, suitable rock outcrops are absent.
BIRDS (Nomenclature from Chesser et al. 2020 and Unitt 2004)						
ACCIPITRIDAE **HAWKS, KITES, & EAGLES**						
Cooper's hawk (nesting) *Accipiter cooperii*	WL/–	List 1	Mature forest, open woodlands, wood edges, river groves. Parks and residential areas.	No	Low	There are no records of this species within 2 miles of the project site. There is one mature eucalyptus trees within the survey areas; however, there was no sign of a nest and no Cooper's hawks were detected during the survey.

Attachment 3 Sensitive Wildlife Species Occurring or with the Potential to Occur						
Species' Common Name/ Scientific Name	Sensitivity Status		Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site?	Basis for Determination of Occurrence Potential
	State/ Federal Status	City of Carlsbad				
STRIGIDAE **TYPICAL OWLS**						
Western burrowing owl (burrow sites) *Athene cunicularia hypugaea*	CSC/–	–	Grassland, agricultural land, coastal dunes. Require rodent burrows. Declining resident.	No	Low	There is one record of this species within 2 miles of the survey area – a 1989 observation approximately 1.2 miles to the south, in an area that has subsequently been developed (County of San Diego 2020). The open coastal sage scrub and native grassland in the northern portion of the survey area are moderately suitable for this species; however, the absence of recent records in the area reduces the likelihood of occurrence.
VIREONIDAE **VIREOS**						
Least Bell's vireo (nesting) *Vireo bellii pusillus*	CE/FE	List 1	Willow riparian woodlands. Summer resident.	No	Low	There are no records of this species within 2 miles of the project site. The patches of southern riparian scrub within the survey area are too small and isolated from other areas of suitable habitat to support nesting.
SYLVIIDAE **GNATCATCHERS**						
Coastal California gnatcatcher *Polioptila californica californica*	CSC/FT	List 1	Coastal sage scrub, maritime succulent scrub. Resident.	No	High	There are numerous records of this species within 2 miles of the project site (CDFW 2020b; USFWS 2020), including in the open space to the east of Paseo Privado. In addition, the survey area is located largely within gnatcatcher critical habitat. The coastal sage scrub in the northern and far eastern portions of the survey area is suitable to support this species. The habitat along the District easement occurs on a manufactured slope and is dominated by coyote brush, lemonade berry, and laurel sumac, which is less suitable to support gnatcatchers.

Attachment 3 Sensitive Wildlife Species Occurring or with the Potential to Occur						
Species' Common Name/ Scientific Name	Sensitivity Status		Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site?	Basis for Determination of Occurrence Potential
	State/ Federal Status	City of Carlsbad				
EMBERIZIDAE **EMBERIZIDS**						
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	WL/–	List 1	Coastal sage scrub, chaparral, grassland. Resident.	No	Moderate	This species has been reported in the undeveloped areas beginning approximately 0.1 mile east of the survey area (CDFW 2020b; County of San Diego 2020). The coastal sage scrub throughout the survey area is suitable to support the species.
MAMMALS (Nomenclature from Baker et al. 2003)						
LEPORIDAE **RABBITS & HARES**						
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	CSC/–	–	Open areas of scrub, grasslands, agricultural fields.	No	Moderate	The nearest record of this species is from a 2006 observation approximately 0.8 mile northwest of the survey area (County of San Diego 2020). The coastal sage scrub and native grassland throughout the survey area are moderately suitable for this species. The coastal sage scrub, and disturbed habitat, as well landscaped areas of urban/developed land along the manufactured slopes and within the District easement are less suitable for this species.
HETEROMYIDAE **POCKET MICE & KANGAROO RATS**						
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	CSC/–	–	Found throughout San Diego County, with the exception of flat lowlands in Anza Borrego Desert. Prefers shrubby habitats with loose and sandy soils, often with rock outcrops. Habitat for this species is most often sparse or disturbed coastal sage scrub or grasslands.	No	Low	The project site mostly lacks open, rocky habitat preferred by this species, although the native grassland in the northern portion may be somewhat suitable. There is only one record of this species within 2 miles of the survey area: a 1992 trapping of numerous individuals in high quality sage scrub approximately 0.75 mile to the south. This species is not expected to occur in the disturbed habitat, landscaped areas of urban/developed land, or dense coastal sage scrub along the District easement, as these areas occur on a manufactured slope with unsuitable soils.

Attachment 3 Sensitive Wildlife Species Occurring or with the Potential to Occur						
Species' Common Name/ Scientific Name	Sensitivity Status		Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site?	Basis for Determination of Occurrence Potential
	State/ Federal Status	City of Carlsbad				
MURIDAE **OLD WORLD MICE & RATS**						
San Diego desert woodrat *Neotoma lepida intermedia*	CSC/–	–	Coastal sage scrub and chaparral, where there are large rock outcrops. Middens generally made within rocky ledges or large cracks, or beneath large shrubs or cactus. Widespread throughout San Diego County, though more common in the eastern portion of the county, where habitat is less disturbed.	No	Low	The coastal sage scrub in the survey area is largely unsuitable for this species due to the lack of rock outcrops. The nearest record of this species is a 1994 record that lacks precise location data (USFWS 2020b; County of San Diego 2020).

Attachment 3 Sensitive Wildlife Species Occurring or with the Potential to Occur						
Species' Common Name/ Scientific Name	Sensitivity Status		Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site?	Basis for Determination of Occurrence Potential
	State/ Federal Status	City of Carlsbad				

STATUS CODES

Listed/Proposed

FE = Listed as endangered by the federal government
FT = Listed as threatened by the federal government
CE = Listed as endangered by the state of California

City of Carlsbad

List 1 = Species proposed for coverage under the Carlsbad Subarea Plan

Other

CFP = California fully protected species
CSC = California Department of Fish and Wildlife species of special concern
WL = California Department of Fish and Wildlife watch list species
* = Taxa listed with an asterisk fall into one or more of the following categories:
Taxa considered endangered or rare under Section 15380(d) of CEQA guidelines
Taxa that are biologically rare, very restricted in distribution, or declining throughout their range
Population(s) in California that may be peripheral to the major portion of a taxon's range but which are threatened with extirpation within California
Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands)

APPENDIX C

Cultural Resources Survey Letter

RECON

An Employee-Owned Company

March 2, 2021

Mr. Ryan Morgan, P.E.
Capital Facilities Senior Engineer
Vallecitos Water District
201 Vallecitos De Oro
San Marcos, CA 92069

Reference: Cultural Resources Survey Letter for the Failsafe Outfall and Emergency Bypass Pipeline Phases I & II, Carlsbad and San Marcos, California (RECON Number 9725-1 and 9725-2)

Dear Mr. Morgan:

This letter details the results of the cultural resources survey conducted for the Failsafe Outfall and Emergency Bypass Pipeline Phases I & II Project (project). The approximately 4,140-linear-foot (Phase I: 3,080 linear feet; Phase II: 1,060 linear feet), 1.89-acre (Phase I: 1.415 acres; Phase II: 0.483 acre) project alignment was surveyed to determine the presence or absence of historical resources.

1.0 Project Description

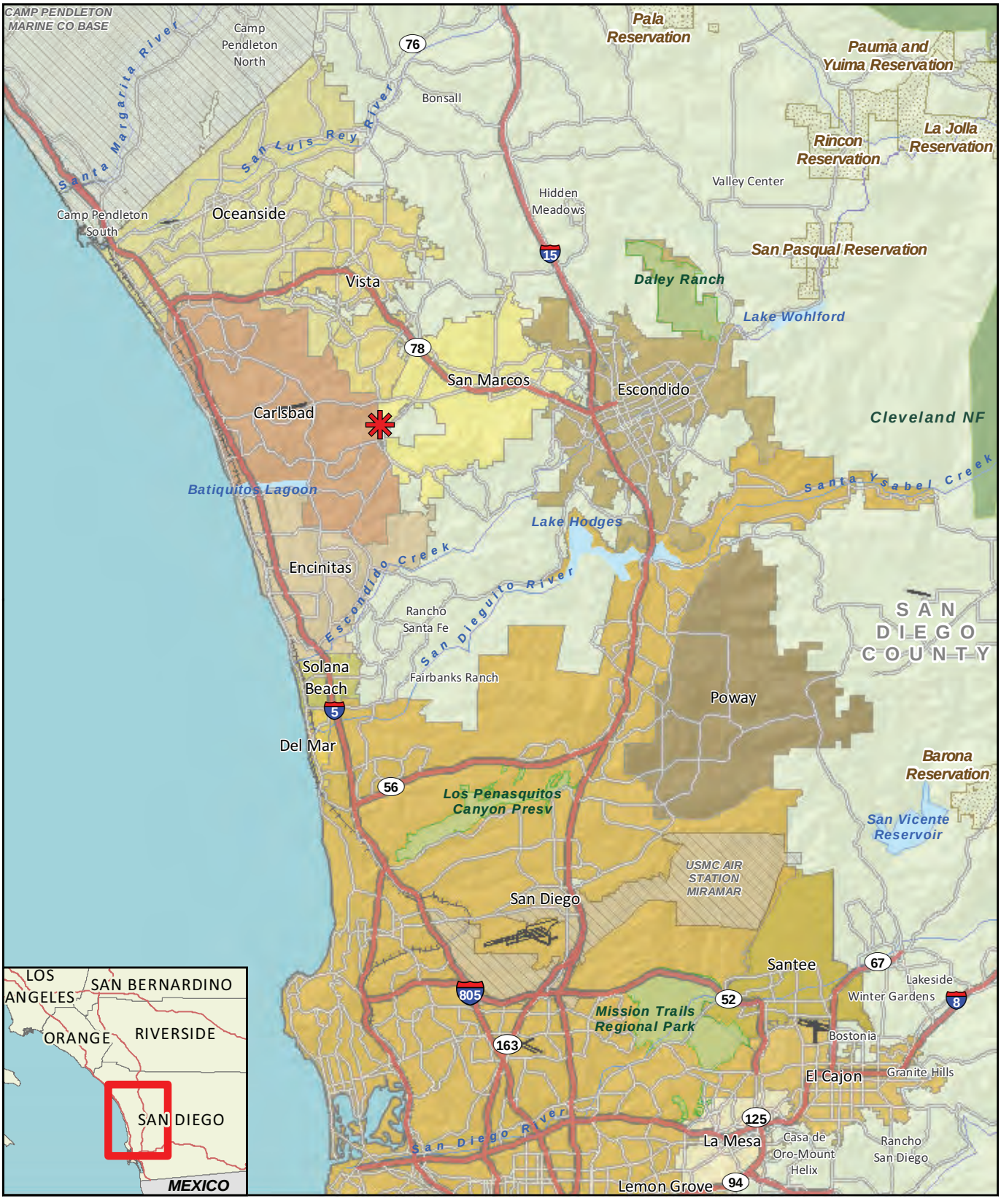
The project is located between Melrose Drive and Rancho Santa Fe Road, crossing both Paseo Privado and Brighton Glen Road, in the cities of Carlsbad and San Marcos (Figures 1 through 3). It is situated within Sections 19 and 20, Township 12 South, Range 3 West on the U.S. Geological Survey (USGS) 7.5-minute Rancho Santa Fe quadrangle (USGS 1996; see Figure 2). The project is located along a Vallecitos Water District (District) easement through largely undeveloped land adjacent to existing residential development (see Figure 3).

1.1 Phase I

The Phase I project alignment is located between Rancho Santa Fe Road and Paseo Privado. The District is proposing to rehabilitate approximately 3,080 feet of existing 16-inch reinforced plastic mortar sewer pipeline with a cured-in-place-pipe liner, replace necessary control valves and appurtenances to operate the line, and provide new access locations at incremental lengths along the alignment. The pipeline would be accessed by digging nine 12-foot-by-12-foot access pits and one open trench within the existing District easement. The pits are located within previously graded areas that are currently developed, landscaped, or disturbed. The trench is located on a slope just east of Brighton Glen Road, on a slope crossing through an area of native vegetation. Equipment and vehicles would access the work areas from the existing graded access path.

1.2 Phase II

The Phase II project alignment is located between Melrose Drive Road and Paseo Privado. The District is proposing to rehabilitate approximately 1,060 feet of existing 16-inch reinforced plastic mortar sewer pipeline with a cured-in-place-pipe liner, replace necessary control valves and appurtenances to operate the line, and provide new access locations at incremental lengths along the alignment. The District anticipates the work would require five access pits; however, methods have not been finalized and it is possible open trench methods will be required. To account for a worst-case-scenario, this report assumes pipeline access would require an open trench for the entire width of the District easement. Any spoils would be stored within existing disturbed or developed areas, or within the District easement, uphill from the trench.



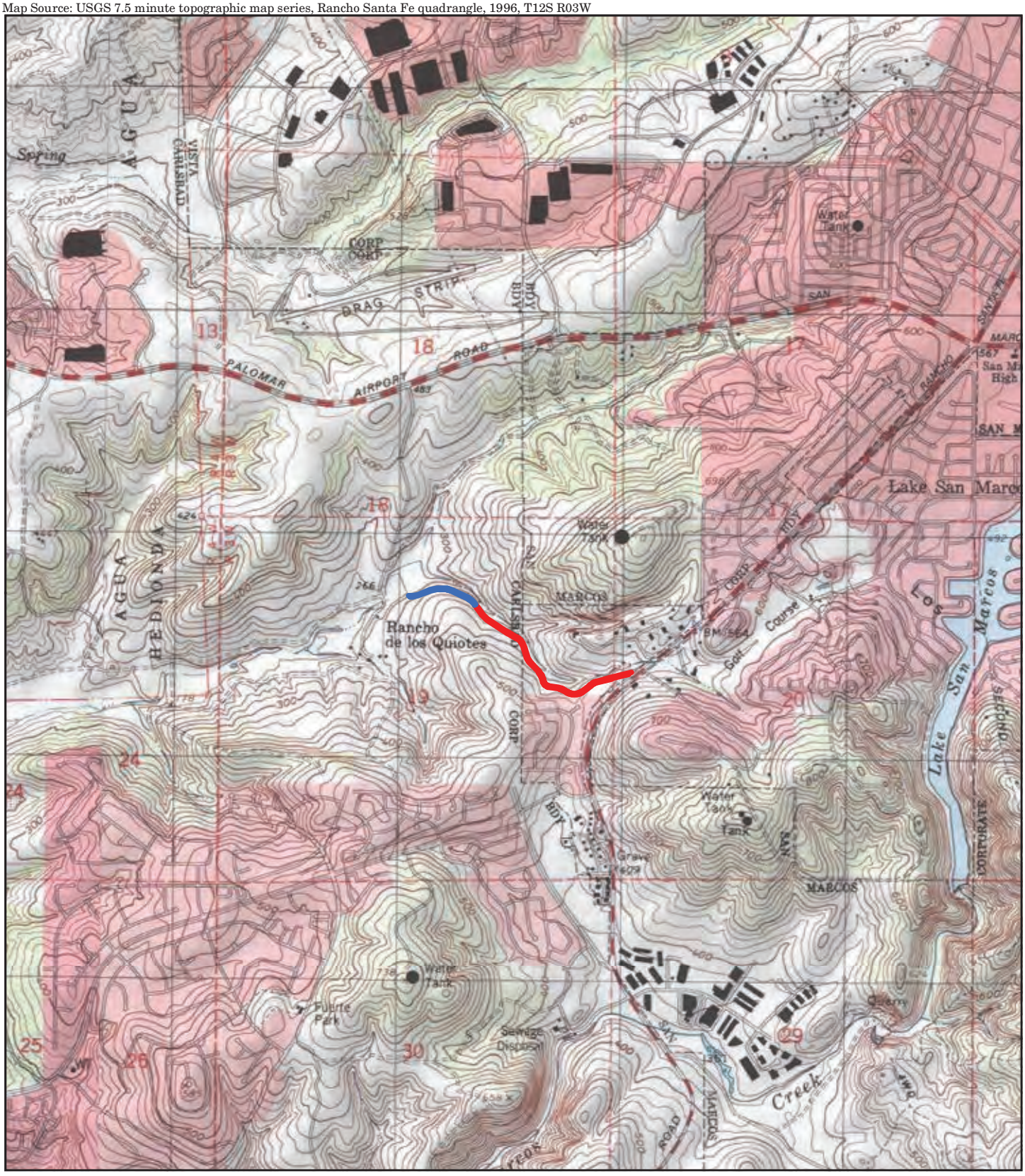
Project Location

RECON

M:\JOBS5\9725.1\common_gis\fig1.mxd 10/15/2020 ccn

FIGURE 1
Regional Location

Map Source: USGS 7.5 minute topographic map series, Rancho Santa Fe quadrangle, 1996, T12S R03W



Pipeline Alignment

Phase I

Phase II

0 Feet 2,000

FIGURE 2
Project Location on USGS Map

RECON

M:\JOBS5\9725.1\common_gis\fig2_arcltr.mxd 2/19/2021 bma

Image Source: Nearmap (flown January 2021)

Pipeline Alignment

Phase I

Phase II

0 Feet 500

FIGURE 3

Project Location on Aerial Photograph

RECON

M:\JOBS5\9725.1\common_gis\fig3_arcltr.mxd 2/19/2021 bma

Appropriate best management practices, including orange construction fencing, silt fencing, fiber rolls, and other measures would be installed to prevent erosion and sedimentation into the surrounding areas and limit impacts to the approved work areas. Equipment and vehicles would access the work area from existing roads via the graded access path located to the south of the District easement. No additional clearing or grading is anticipated to be needed outside the District easement.

2.0 Methods

In order to determine if this project will adversely impact significant cultural resources, background research, review of historic topographic maps and aerial photographs, and an on-foot survey were completed. Prior to the survey, on September 29, 2020 a records search was requested from the South Coastal Information Center (SCIC) located on the campus of San Diego State University (Confidential Attachment 1). The records search was completed and reviewed to identify any previously recorded cultural resources recorded within a one-mile radius of the project area.

RECON Environmental, Inc. (RECON) archaeologist Nathanial Yerka conducted a pedestrian survey of the approximately 4,140-linear-foot, 1.89-acre project alignment (see Figure 3) on November 19, 2020. Carmen Zepeda-Herman served as principal investigator. Ms. Zepeda-Herman is a member of the Register of Professional Archaeologists and meets the Secretary of the Interior's Standards for Archaeology and Historic Preservation.

The primary goal of this survey was to determine (1) if there are previously unrecorded cultural resources present, and if so, document the resources' locations and what they consist of and (2) to update conditions of previously recorded cultural resources. The project area was inspected for evidence of archaeological materials such as flaked and ground stone tools or fragments, ceramics, milling features, and human remains. Photographs and field notes were taken to document the environmental setting and general conditions.

In addition, a letter was sent on September 29, 2020 to the Native American Heritage Commission (NAHC) requesting a search of their Sacred Lands File to identify spiritually significant and/or sacred sites or traditional use areas in the project vicinity. The NAHC was also asked to provide a list of local Native American tribes, bands, or individuals that may have concerns or interests regarding cultural resources potentially occurring within the project area.

3.0 Previous Research

The record search indicated that there have been 82 cultural investigations conducted within one mile of the project area, as well as 13 that cover the project area. The record search also indicated 55 cultural resources situated within one mile of the project area. One of these cultural resources occurs within the project area. The western extent of the project alignment is situated within the mapped boundary of P-37-015945, recorded by Brian F. Smith & Associates in 1997 as a series of concrete and cobble dams that may be a part of the Rancho de Los Quiotes (P-37-017444—Leo Carrillo Ranch State Park), the 1930s rancho created by movie actor Leo Carrillo (Cratty, P. 1988 and Smith, B. F. 1997). The point location of these dams (P-37-015945) was not provided in the 1997 site form; however, the mapped boundary of P-37-015945 extends into the extant Rancho de Los Quiotes complex along with the project area. There is also one historic address indicated in the one-mile search radius, 4758 Palomar Airport Road; an address associated with the Rancho de Los Quiotes.

The NAHC response letter dated October 6, 2020, noted that the Sacred Lands File search was completed with negative results; however, the response provided a list of other sources of cultural resources to contact for information regarding known and recorded sites. The NAHC reply is included as Attachment 1.

Review of historic aerial photographs indicate a farm pond just north of the western extent of the project alignment and abutting the current alignment of present-day Melrose Drive. A pond is visible at this location on the earliest available aerial, 1947, with a high-water mark represented on the 1967 aerial. This pond is first represented on a topographic map in 1949 with the approximate 380-foot dam alignment oriented north-northwest/south-southeast. The alignment of the dam remains visible on aerials up to 1997. A 1998 aerial exhibits the alignment area of the dam consumed by the construction of Melrose Drive (Nationwide Environmental Title Research LLC 2020).

4.0 Results of Survey

No cultural resources were identified during the survey. The survey was performed in conditions of clear skies and bright sunlight. For the most part, the Phase I and II project area occupied the transition area between an unnamed drainage generally to the north of the project alignment and a manufactured slope or cleared areas associated with residential development generally to the south of the project alignment.

4.1 Phase I

The Phase I project area was surveyed generally moving upslope from west to east, starting at the project alignment on the east side of Paseo Privado (Photograph 1), following the alignment and crossing Brighton Glen Road, and ending at South Rancho Santa Fe Road. The project alignment is fully disturbed from the placement of the existing utility, the construction of the adjacent single-family residential development to the south, the placement of a concrete brow ditch crossing the alignment (Photograph 2), the installation of an asphalt water crossing with associated rip rap (Photograph 3), the placement of utility access manholes (Photograph 4), the construction of Brighton Glen Road to the east (Photograph 5), and from both the revegetated slope at the western end of the private Star Pine Nursery and the install of non-native ornamental vegetation within the nursery. The project alignment evidences a graded dirt path composed of fill soils with a fair amount of decomposed granite within the matrix. These fill soils constitute the base of the northeast-facing manufactured slope of the adjacent single-family residential development. A fair amount of large rock and boulders occupy the pathway, either settled in place from the construction of the manufactured slope or removed from the manufactured matrix during placement of the existing utility alignment (Photograph 6). The graded pathway evidences existing utility alignment markers as well as recent, and most likely routine, vegetation clearing maintenance. The cleared area along the southern dip of the alignment (see Figure 3) evidences a small amount of construction rubble and vegetation dumping.

4.2 Phase II

The Phase II project area was surveyed generally moving downslope from east to west, starting at the project alignment on the west side of Paseo Privado (Photograph 7), following the alignment to the manufactured northeast-facing slope of Melrose Drive. The project alignment is fully disturbed from the placement of the existing utility, the construction of the adjacent multi-family residential development to the south, the manufactured pathway and fencing (Photograph 8), the installation of a brow ditch (Photograph 9), installation of ornamental vegetation, and the construction of Melrose Drive (Photograph 10). P-37-015945 was not observed within the project area. The California Department of Parks and Recreation site form for P-37-015945 has been updated (see Confidential Attachment 2).

PHOTOGRAPH 1
Overview of West End of Phase I Project Alignment,
Looking Southeast

PHOTOGRAPH 2
Overview of Brow Ditch Crossing Phase I Project Alignment,
Looking South

PHOTOGRAPH 3
Overview of Asphalt Water Crossing with Rip Rap,
Looking East-Southeast

PHOTOGRAPH 4
Overview of Manhole at East End of Phase I Project Alignment,
Looking Northeast

PHOTOGRAPH 5
Overview of Brighton Glen Road at East End of Phase I Project Alignment, Looking East-Northeast

PHOTOGRAPH 6
Overview of Rocks and Boulders Along Phase I Project Alignment

PHOTOGRAPH 7
Overview of East End of Phase II Project Alignment,
Looking Northwest

PHOTOGRAPH 8
Overview of Phase II Project Alignment from Fenced Pathway,
Looking Northwest

PHOTOGRAPH 9
Overview of Brow Ditch Crossing Phase II Project Alignment, Looking West-Northwest

PHOTOGRAPH 10
Overview of West End of Phase II Project Alignment from Melrose Drive, Looking Northeast

5.0 Regulatory Context

5.1 National Register of Historic Places Eligibility Criteria

A cultural resource that qualifies for the National Register of Historic Places (National Register) is considered significant in terms of the planning process under the National Historic Preservation Act, National Environmental Policy Act, and other federal mandates. The National Register Criteria for Evaluation (36 Code of Federal Regulations [CFR] 60.4) provides guidance in determining a cultural resource's eligibility for listing on the National Register. This states that the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. Is associated with events that have made a significant contribution to the broad patterns of our history; or

B. Is associated with the lives of persons significant in our past; or,

C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction; or

D. Has yielded, or may be likely to yield, information important in prehistory or history [36 CFR 60.4].

5.2 California Environmental Quality Act

The regulatory framework and methods for determining impacts on cultural resources include compliance with California Environmental Quality Act (CEQA) requirements as defined in Section 15064.5 of the CEQA Guidelines, Determining the Significance of Impacts to Archaeological and Historical Resources. These guidelines require the identification of cultural resources that could be affected by the project, the evaluation of the significance of such resources, an assessment of the project impacts on significant resources, and a development of a research design and data recovery program to avoid or address adverse effects to significant resources.

Significant resources, also called historical resources, are those cultural resources (whether prehistoric or historic) that have been evaluated and determined to be eligible for listing in the California Register of Historical Resources.

According to CEQA Section 15064.5(a), a historical resource includes the following:

1. A resource listed in, or determined to be eligible for listing on, the California Register of Historical Resources.
2. A resource included in the local register.
3. A resource which an agency determines to be historically significant. Generally a resource shall be considered to be "historically significant," if the resource meets the criteria for listing on the California Register of Historical Places (Public Resources Code Section 5024.1 Title 14 California Code of Regulations, Section 4852) including the following:
    A. Is associated with events that have made a significant contribution to the broad patterns of California's history or cultural heritage;
    B. Is associated with the lives of persons important in our past;
    C. 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

D. Has yielded, or maybe likely to yield, information important to prehistory or history.

4. The fact that a resource is not listed in or determined to be eligible for listing in the California Register of Historical Resources or a local register does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1.

A resource must meet one of the above criteria and must have integrity; that is, it must evoke the resource's period of significance or, in the case of criterion D, it may be disturbed, but it must retain enough intact and undisturbed deposits to make a meaningful data contribution to regional research issues.

6.0 Management Recommendations

No cultural resources were identified during the survey of the Phase I and II project areas. No prehistoric cultural resources were indicated in the SCIC record search as occurring within either of the Phase I or Phase II project areas; however, the mapped boundary of one historic resource—P-37-015945—was identified as occurring within the Phase II project area. The series of concrete and cobble dam features previously recorded as P-37-015945 were not observed during the current survey. The previous research performed for this project indicates that a farm pond and associated dam alignment occurred just north of the western extent of the Phase II project alignment and abuts the current alignment of present-day Melrose Drive. P-37-015945 is presumed buried or destroyed by the construction of Melrose Drive. As a result, there would be no anticipated adverse effects to known cultural resources within the Phase I and Phase II project areas. Both project areas have been disturbed by construction of the present utility as well as by the construction of abutting roads and surrounding residential development. Given these past disturbances, the possibility of buried significant cultural resources being present within either project area is considered low. RECON recommends no further cultural resources work.

Please contact me if you have any questions or concerns about this project (619) 308-9333 extension 192 or nyerka@reconenvironmental.com.

Sincerely,

Nathanial Yerka
Project Archaeologist

NDY:jg

Attachments

7.0 References Cited

Cratty, Patricia
1988 Site form for P-37-017444 on file at the South Coastal Information Center at San Diego State University.

Nationwide Environmental Title Research LLC
2020 Historic Aerials. http://www.historicaerials.com/. Accessed December 16, 2020.

Smith, Brian F.
1997 Site form for P-37-015945 on file at the South Coastal Information Center at San Diego State University.

ATTACHMENT 1

Native American Heritage Commission Response Letter

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

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Karuk

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Marshall McKay
Wintun

COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
[**Vacant**]

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
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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 6, 2020

Carmen Zepeda-Herman
RECON Environmental

Via Email to: czepeda@reconenvironmental.com

Re: Failsafe Pipeline and Emergency Bypass Pipeline Phase I and II Project, San Diego County

Dear Ms. Zepeda-Herman:

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 negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. 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: steven.quinn@nahc.ca.gov.

Sincerely,

Steven Quinn
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Diego County
10/6/2020

Barona Group of the Capitan Grande
Edwin Romero, Chairperson
1095 Barona Road — Diegueno
Lakeside, CA, 92040
Phone: (619) 443 - 6612
Fax: (619) 443-0681
cloyd@barona-nsn.gov

Campo Band of Diegueno Mission Indians
Ralph Goff, Chairperson
36190 Church Road, Suite 1 — Diegueno
Campo, CA, 91906
Phone: (619) 478 - 9046
Fax: (619) 478-5818
rgoff@campo-nsn.gov

Ewiiaapaayp Band of Kumeyaay Indians
Michael Garcia, Vice Chairperson
4054 Willows Road — Diegueno
Alpine, CA, 91901
Phone: (619) 445 - 6315
Fax: (619) 445-9126
michaelg@leaningrock.net

Ewiiaapaayp Band of Kumeyaay Indians
Robert Pinto, Chairperson
4054 Willows Road — Diegueno
Alpine, CA, 91901
Phone: (619) 445 - 6315
Fax: (619) 445-9126
wmicklin@leaningrock.net

Iipay Nation of Santa Ysabel
Virgil Perez, Chairperson
P.O. Box 130 — Diegueno
Santa Ysabel, CA, 92070
Phone: (760) 765 - 0845
Fax: (760) 765-0320

Iipay Nation of Santa Ysabel
Clint Linton, Director of Cultural Resources
P.O. Box 507 — Diegueno
Santa Ysabel, CA, 92070
Phone: (760) 803 - 5694
cjlinton73@aol.com

Inaja-Cosmit Band of Indians
Rebecca Osuna, Chairperson
2005 S. Escondido Blvd. — Diegueno
Escondido, CA, 92025
Phone: (760) 737 - 7628
Fax: (760) 747-8568

Jamul Indian Village
Lisa Cumper, Tribal Historic Preservation Officer
P.O. Box 612 — Diegueno
Jamul, CA, 91935
Phone: (619) 669 - 4855
lcumper@jiv-nsn.gov

Jamul Indian Village
Erica Pinto, Chairperson
P.O. Box 612 — Diegueno
Jamul, CA, 91935
Phone: (619) 669 - 4785
Fax: (619) 669-4817
epinto@jiv-nsn.gov

Kwaaymii Laguna Band of Mission Indians
Carmen Lucas,
P.O. Box 775 — Kwaaymii
Pine Valley, CA, 91962 — Diegueno
Phone: (619) 709 - 4207

La Posta Band of Diegueno Mission Indians
Javaughn Miller, Tribal Administrator
8 Crestwood Road — Diegueno
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
jmiller@LPtribe.net

La Posta Band of Diegueno Mission Indians
Gwendolyn Parada, Chairperson
8 Crestwood Road — Diegueno
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
LP13boots@aol.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Failsafe Pipeline and Emergency Bypass Pipeline Phase I and II Project, San Diego County.

Manzanita Band of Kumeyaay Nation
Angela Elliott Santos, Chairperson
P.O. Box 1302 — Diegueno
Boulevard, CA, 91905
Phone: (619) 766 - 4930
Fax: (619) 766-4957

Mesa Grande Band of Diegueno Mission Indians
Michael Linton, Chairperson
P.O Box 270 — Diegueno
Santa Ysabel, CA, 92070
Phone: (760) 782 - 3818
Fax: (760) 782-9092
mesagrandeband@msn.com

Pala Band of Mission Indians
Shasta Gaughen, Tribal Historic Preservation Officer
PMB 50, 35008 Pala Temecula Rd. — Cupeno, Luiseno
Pala, CA, 92059
Phone: (760) 891 - 3515
Fax: (760) 742-3189
sgaughen@palatribe.com

Pechanga Band of Luiseno Indians
Paul Macarro, Cultural Resources Coordinator
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6306
Fax: (951) 506-9491
pmacarro@pechanga-nsn.gov

Pechanga Band of Luiseno Indians
Mark Macarro, Chairperson
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6000
Fax: (951) 695-1778
epreston@pechanga-nsn.gov

Rincon Band of Luiseno Indians
Bo Mazzetti, Chairperson
One Government Center Lane — Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
bomazzetti@aol.com

Rincon Band of Luiseno Indians
Cheryl Madrigal, Tribal Historic Preservation Officer
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San Pasqual Band of Diegueno Mission Indians
John Flores, Environmental Coordinator
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Valley Center, CA, 92082
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This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Failsafe Pipeline and Emergency Bypass Pipeline Phase I and II Project, San Diego County.

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CONFIDENTIAL ATTACHMENTS

(Not for Public Review)