Initial Study/Mitigated Negative Declaration

North River Road and Sleeping Indian Road Drainage Improvements Project

FEBRUARY 2026

Prepared for:

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
AC	asphalt concrete
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAP	Climate Action Plan
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CH_4	methane
CMP	corrugated metal pipe
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
EIR	environmental impact report
EO	Executive Order
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
GWP	global warming potential
HDPE	high-density polyethylene
IS	initial study
MND	mitigated negative declaration
MT	metric ton
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NO_x	oxides of nitrogen
O_3	ozone
$PM_{2.5}$	fine particulate matter
PM_{10}	coarse particulate matter
PVC	polyvinyl chloride
RAQS	Regional Air Quality Strategy
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin

Acronym/Abbreviation	Definition
SDG&E	San Diego Gas and Electric
SIP	State Implementation Plan
SLF	Sacred Lands File
SR	State Route
SWPPP	stormwater pollution prevention plan
SWQMP	Storm Water Quality Management Plan
TAC	toxic air contaminant
TCR	tribal cultural resource
VMT	vehicle miles traveled
VOC	volatile organic compound

1 Introduction

The City of Oceanside (City) has prepared this mitigated negative declaration (MND) to assess and disclose the potential impacts on the environment of the North River Road and Sleeping Indian Road Drainage Improvements Project (project) pursuant to the California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000 et seq.). This section of the MND provides information on project background, explains the project's purpose and need, and describes the City's obligations under CEQA associated with approving and implementing the project.

1.1 Project Background and Overview

The City is proposing to replace four existing stormwater drainage culverts located north of the San Luis Rey River, including three crossing beneath North River Road and one crossing beneath Sleeping Indian Road. The City has identified the existing facilities as undersized and prone to filling with sediment and debris, which prevents stormwater flow beneath the paved roads. The purpose of the project is to address the flooding issues caused by the existing culverts. The existing culverts are pipes under the road with unimproved inlets and outlets connected to dirt ditches. These inadequate structures fail to manage stormwater effectively, leading to frequent flooding and associated damage. The proposed project involves constructing new, larger culverts designed to enhance drainage capacity and mitigate flooding. By improving the flow of water through these upgraded culverts, the project aims to protect the roadways and surrounding areas from water damage, ensuring safer and more reliable infrastructure for the community.

A detailed description of the project and its potential impacts are presented in Chapter 3, Initial Study Checklist.

1.2 California Environmental Quality Act Compliance

1.2.1 Authority to Prepare an MND

Approval by the Oceanside City Council to issue a construction contract for the project constitutes a discretionary action that triggers environmental review requirements pursuant to CEQA, with the City serving as lead agency. The City prepared a CEQA initial study (IS) to analyze and consider the environmental impacts of implementing the project, which is included as Chapter 3 of this document. Based on the results of the IS, the City determined that an MND is the appropriate environmental document for compliance with CEQA. As stated in Section 21064 of the CEQA statute, an MND may be prepared for a project subject to CEQA when an IS has identified no potentially significant effects on the environment when mitigation is identified that can reduce impacts to less-than-significant levels.

1.2.2 Public Review Process

The City is making the MND available for public review and comment pursuant to Section 15073 of the CEQA Guidelines (14 CCR 15000 et seq.). A copy of the MND and related documents are available for review on the City's website(https://www.ci.oceanside.ca.us/government/development-services/planning/project-search). The City has identified a 30-day review and comment period for the MND commencing February 4th, 2026, and terminating March 6th, 2026.

Comments on the MND may be submitted to the City in writing before the end of the public review period. In reviewing and commenting on the MND, interested public agencies and members of the public should focus on the adequacy of the document in identifying and analyzing the project's potential impacts on the environment. Written comments on the IS/MND will be accepted in hardcopy or email format, and should be received at the following address or email address by 5:00 p.m., March 6th, 2026:

City of Oceanside
300 North Coast Hwy
Oceanside, California 92054
Contact: Edwin Medina
Email: emedina@oceansideca.org

Following the close of the public comment period, City staff will review all comments and may revise the MND if necessary to clarify the document's content. City staff will then prepare a final version of the MND that includes all comment letters received during the public review period and will send the MND to the City Council for adoption and consideration in their decision to approve the project.

2 Project Description

2.1 Project Location and Environmental Setting

The project sites are in the northeast portion of the City, which is in northern San Diego County (County), as shown in Figure 1, Project Location. The project includes four existing drainage culverts, referred to as Culverts 1–4, located north of the San Luis Rey River, as shown on Figure 1.

Culvert 1 is located along Sleeping Indian Road, approximately 0.5 miles north of the Sleeping Indian Road and North River Road intersection. Culvert 1 is oriented northeast–southwest underneath Sleeping Indian Road, which runs generally north–south. Culverts 2–4 are oriented north–south underneath North River Road, which runs generally east–west. Culvert 2 is located along North River Road, immediately to the west of the Sleeping Indian Road and North River Road intersection. Culvert 3 is located along North River Road, approximately 0.1 miles west of Culvert 2. Culvert 4 is located along North River Road, approximately 0.25 miles west of Culvert 3. The surrounding area is characterized by developed agricultural land and scattered residences north of North River Road and mostly undeveloped open space south of North River Road, with one developed agricultural and residential property at the far western side of the site.

The existing culverts are made of corrugated metal pipe (CMP), polyvinyl chloride (PVC), or high-density polyethylene (HDPE), and connect to earthen ditches on the upstream and downstream ends. The roads directly over the culverts, Sleeping Indian Road and North River Road, consist of asphalt pavement over engineered roadbed. Asphalt curb is present along most of the southern side (the eastbound traffic side) of North River Road in the vicinity of the project sites.

The project sites are located within public right-of-way; the surrounding land is designated in the City's General Plan as Agriculture and zoned as Agriculture (City of Oceanside 2024a).

2.2 Project Characteristics

2.2.1 Replacement Culverts

The proposed project would include improvements to four existing culverts. Culvert 1 would include construction of 3.5-foot by 6-foot double box culverts, with a headwall and asphalt concrete (AC) paving upstream and rip rap downstream. Culvert 2 would include construction of 4.5-foot by 8-foot double box culverts, with a headwall and AC paving upstream, and a headwall and riprap downstream. Culvert 3 would include construction of a 24-inch HDPE storm drain, with a headwall and AC paving upstream, and a headwall and riprap downstream. Culvert 4 would include construction of 2.5-foot by 7.5-foot triple box culverts, with a headwall and AC paving upstream and riprap downstream. Installation of riprap downstream of the replacement culverts would entail expansion of the existing facilities' developed footprints. See Figure 2, Proposed Culverts.

2.2.2 Demolition

The existing structural features at the Culvert 1 site that would be removed as part of the project consist of one 12-inch-diameter PVC storm drain and headwall(s), one 24-inch-diameter CMP storm drain and headwall(s), and asphalt pavement; an existing 15-inch-diameter CMP storm drain would be protected in place. The existing

structural features at the Culvert 2 site that would be removed as part of the project consist of four 36-inch HPDE storm drain and headwall(s) and asphalt pavement. The existing structural features at the Culvert 3 site that would be removed as part of the project consist of asphalt pavement; two 24-inch-diameter HPDE storm drains would be protected in place. The existing structural features at the Culvert 4 site that would be removed as part of the project consist of one 15-inch-diameter HPDE storm drain and headwall(s) and asphalt pavement.

Demolition of the existing structures would require trenching and excavation using an excavator and/or backhoe. Demolished materials would be either recycled or disposed of at the nearest landfill that is permitted to dispose of construction and demolition waste. The contractor would minimize generation of construction/demolition waste and would reuse materials when feasible.

2.2.3 Road Repavement

Culvert replacement would require removing sections of existing pavement from North River Road and Sleeping Indian Road. Once the culverts have been replaced, the project would install replacement pavement along the affected areas, extending from approximately 150 feet to 300 feet beyond the culvert locations.

2.3 Project Construction and Phasing

Construction is anticipated to begin in July 2026 through November 2027. Construction of the proposed culverts would require trenching across the roads and removal of the existing culverts. Once the existing earthen material and piping are removed, the foundation material would be excavated. During ground-moving activities and construction, all existing utilities would be maintained in place. Approximately 69 cubic yards of material will be removed from the site at Culvert 1, 75 cubic yards from Culvert 2, 67 cubic yards from Culvert 3, and 153 cubic yards from Culvert 4. In total, approximately 364 cubic yards of material would be removed from the sites. The roads would be backfilled where trenching had occurred and then would be repaved.

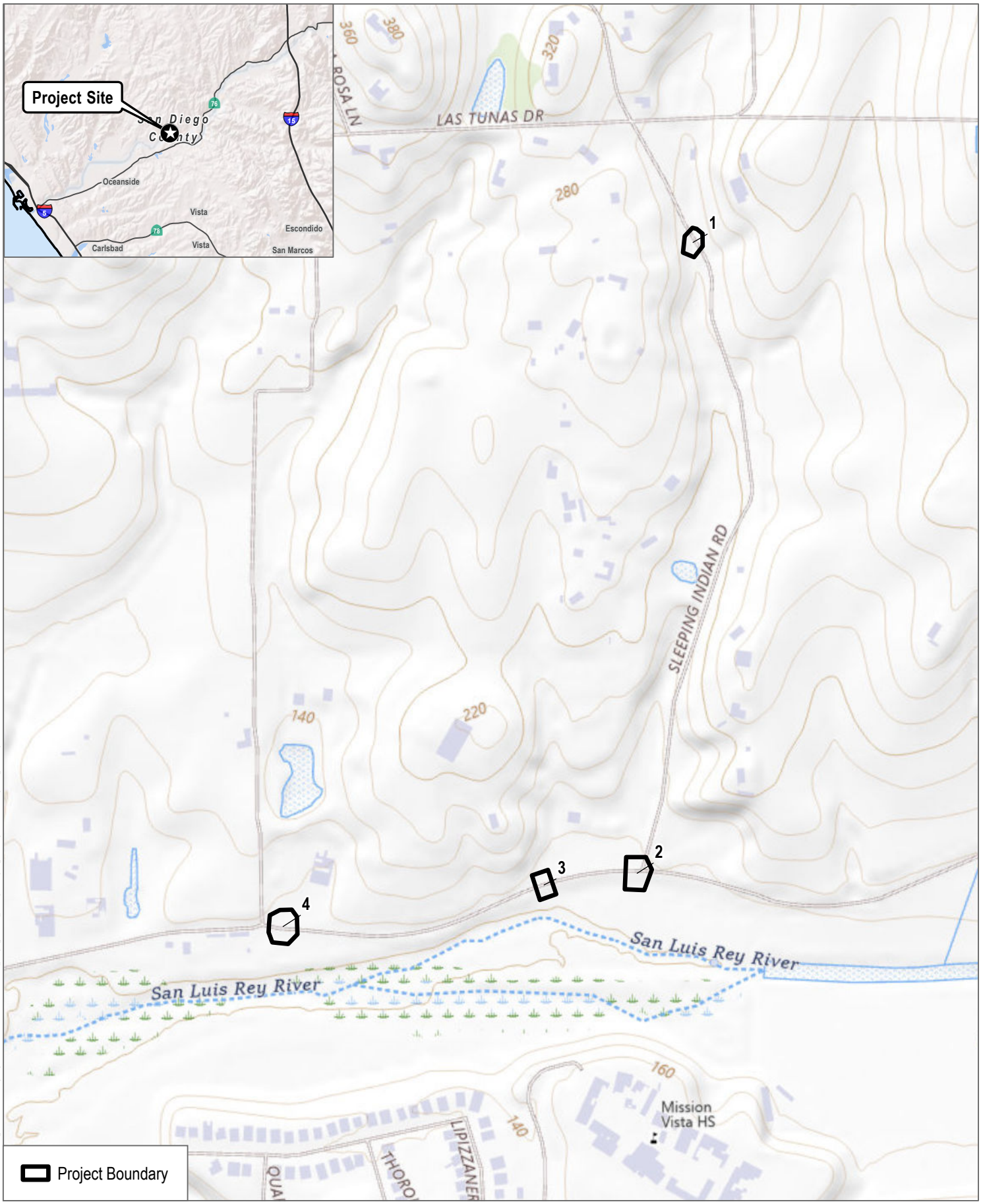
Construction would require temporary work in Sleeping Indian Road and North River Road. Portions of traffic lanes would be closed during construction. All road closures would be performed pursuant to a traffic-control plan prepared by the contractor and approved by the City Engineer. Access to private driveways would be maintained at all times.

During project construction, equipment staging and materials laydown would occur in developed or disturbed strips along North River Road. Development of an off-site staging yard is not anticipated.

2.4 Project Approvals

In addition to Oceanside City Council approval of the construction contract, the project is anticipated to require the following permits or authorizations related impacts on waters features regulated by the state:

- Regional Water Quality Control Board (RWQCB): Waste Discharge Requirement pursuant to the Porter–Cologne Water Quality Control Act
- California Department of Fish and Wildlife (CDFW): Lake and Streambed Alteration Agreement pursuant to the California Fish and Game Code



SOURCE: USGS National Map 2025

DUDEK

0 365 730 Feet

FIGURE 1

Project Location

North River Road and Sleeping Indian Road Drainage Improvements Project

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SOURCE: SANGIS 2024

DUDEK

0 280 560 Feet

FIGURE 2

Proposed Culverts

North River Road and Sleeping Indian Road Drainage Improvements Project

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3 Initial Study Checklist

1. **Project title:**

   North River Road and Sleeping Indian Road Drainage Improvements Project

2. **Lead agency name and address:**

   City of Oceanside
   300 North Coast Highway
   Oceanside, California 92054

3. **Contact person and phone number:**

   Edwin Medina
   300 North Coast Highway
   Oceanside, California 92054
   (760)-435-5086

4. **Project location:**

   The project is within the City of Oceanside, located north of the San Luis Rey River, along North River Road and Sleeping Indian Road.

5. **Project sponsor's name and address:**

   City of Oceanside
   300 North Coast Highway
   Oceanside, California 92054

6. **General plan designation:**

   Agriculture

7. **Zoning:**

   Agriculture

8. **Description of project. (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary):**

   Refer to Chapter 2, Project Description, of this MND.

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

   Refer to Section 2.1, Project Location and Environmental Setting, of this MND.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

California Department of Fish and Wildlife, San Diego Regional Water Quality Control Board

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.?**

Refer to Section 3.5, Cultural Resources, and 3.18, Tribal Cultural Resources, of this MND.

Environmental Factors Potentially Affected

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

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

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

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

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

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

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

Signature

2/2/26
Date

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
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

3.1 Aesthetics

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
I.	**AESTHETICS** – Except as provided in Public Resources Code Section 21099, would the project**:**				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

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

Less-Than-Significant Impact. According to the City of Oceanside General Plan, the City dedicates areas of open space and scenic areas to ensure their preservation. Within the vicinity of the project sites, the City designates San Luis River as an area of visual open space (City of Oceanside 2002a). The project is located directly north of the San Luis Rey River. The project would involve replacement of existing culverts along North River Road and Sleeping Indian Road. The project would not introduce new elements that would significantly alter the existing visual conditions of the site or surrounding area. Project construction would result in temporarily excavated roads and construction equipment. However, upon completion, the project sites would have replaced and improved culverts and post-construction conditions would be similar to existing conditions. Therefore, impacts would be **less than significant**.

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

No Impact. According to the California Department of Transportation (Caltrans) California State Scenic Highway System Map, there are no eligible state scenic highways in the vicinity of the project sites. The nearest eligible state scenic highway is State Route (SR) 76, located approximately 0.6 miles south of the project sites (Caltrans 2024). Due to intervening development and distance, the project sites are not visible

from SR-76. Therefore, the project would not substantially damage scenic resources within a state scenic highway and **no impact** would occur.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from 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?

No Impact. Per California Public Resources Code Section 21071, an "urbanized area" is defined as "(a) An incorporated city that meets either of the following criteria: (1) Has a population of at least 100,000 persons. [or] (2) Has a population of less than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons." The project sites are in the incorporated City of Oceanside, which had a population of 174,068 persons as of the 2020 census (U.S. Census Bureau 2020). Therefore, the project sites are considered to be in an urbanized area.

The project sites have zoning and land use designations of Agricultural. There are no zoning standards related to scenic quality that are applicable to the project. The project sites are not subject to overlay zones or other such designations specific to scenic resources or quality. As described in Section 3.1(a), visual impacts resulting from construction activities would be temporary, ceasing upon completion of construction. As such, implementation of the project would not conflict with the applicable zoning and other regulations governing scenic quality. **No impact** would occur.

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

No Impact. The project would not include installation of any new light sources or the use of reflective materials. Existing sources of lighting in the vicinity of the project sites include lighting from residential homes and headlights from vehicles. The project would not involve nighttime construction. As such, the project would not result in additional sources of lighting or glare and **no impact** would occur.

3.2 Agriculture and Forestry Resources

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

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

No Impact. According to the Department of Conservation's California Important Farmland Finder, the project sites are located on Other Land, Unique Farmland, and Farmland of Local Importance (DOC 2024a). At Culvert 1, land to the west of Sleeping Indian Road is designated as Farmland of Local Importance and land to the east of Sleeping Indian Road is designated as Unique Farmland. At Culverts 2–4, land to the north of North River Road is designated as Unique Farmland and land to the south of North River Road is

designated as Other Land. The project would involve replacement of existing culverts along North River Road and Sleeping Indian Road and would not change the existing use of the land. Although the proposed culverts would be slightly larger than the existing culverts, the project would not impact the surrounding land such that it would convert farmland to non-agricultural uses. Therefore, the project would not convert Farmland to non-agricultural uses, and **no impact** would occur.

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

No Impact. The project sites and surrounding land are zoned as Agriculture. Flood control or drainage facilities are permitted in the Agriculture zone if they are consistent with approved master drainage and/or flood-control plans (City of Oceanside 2024b). The project would not change the use of the land, as the project would consist of replacing existing drainage culverts.

The land surrounding Culverts 2–4 is under a Williamson Act contract (DOC 2024b). The project would be replacing public infrastructure within the public right-of-way and would not impacts the land under the Willamson Act Contract. **No impact** would occur.

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

No Impact. As previously mentioned, the project sites and surrounding land are zoned as Agriculture (City of Oceanside 2024a). This zone is not designated for, nor does it contain, any forest land or timberland. Therefore, the project would not conflict with or cause the rezoning or conversion of forest land or timberland. **No impact** would occur.

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

No Impact. As mentioned in Section 3.2(c), the project sites do not contain any forest land or timberland. Therefore, the project would not result in the loss of forest land or conversion of forest land to non-forest use and **no impact** would occur.

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

No Impact. The project would involve replacement of existing culverts along North River Road and Sleeping Indian Road and would not change the existing use of the land. As discussed in Section 3.2(c), the project sites do not contain any forest land. Although the proposed culverts would be slightly larger than the existing culverts, the project would not impact the surrounding land such that it would convert farmland to non-agricultural uses. Therefore, the project would not involve changes that would result in the conversion of Farmland of forest land and **no impact** would occur.

3.3 Air Quality

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

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

Less-Than-Significant Impact. The San Diego Air Pollution Control District (SDAPCD) is responsible for developing and implementing the clean air plans for attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) in the San Diego Air Basin (SDAB); specifically, the State Implementation Plan (SIP) and Regional Air Quality Strategy (RAQS).[1] The federal ozone (O_3) attainment plan, which is part of the SIP, was adopted in 2020. The SIP includes a demonstration that current strategies and tactics will attain acceptable air quality in the SDAB based on the NAAQS. The RAQS was initially adopted in 1992 and is updated every 3 years (most recently in 2022). The RAQS outlines SDAPCD's plan and control measures designed to attain the CAAQS for O_3. The SIP and RAQS rely on information from the California Air Resources Board (CARB) and San Diego Association of Governments (SANDAG), including mobile and area source emissions, as well as information regarding projected growth in the County and the cities in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

[1] For the purposes of this discussion, the relevant federal air quality plan is the O_3 attainment plan (SDAPCD 2020). The RAQS is the applicable plan for purposes of state air quality planning (SDAPCD 2022). Both plans reflect growth projections in the SDAB.

Projects involving development consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS. However, if a project involves development that is greater than that anticipated in the local plan and/or SANDAG's growth projections, that project might conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality.

The project involves the replacement of four existing drainage culverts located north of the San Luis Rey River, including three along North River Road and one along Sleeping Indian Road. The purpose of the project is to address the flooding issues caused by the existing culverts. The existing culverts are pipes under the road with unimproved inlets and outlets connected to dirt ditches. These inadequate structures fail to manage stormwater effectively, leading to frequent flooding and associated damage. The proposed project involves constructing new, larger culverts designed to enhance drainage capacity and mitigate flooding. Through improving the flow of water through these upgraded culverts, the project is intended to protect the roadway and surrounding areas from water damage, ensuring safer and more reliable infrastructure for the community. Operation of the project would not generate air pollutant emissions. Flood control or drainage facilities are permitted in the Agriculture zone if they are consistent with approved master drainage and/or flood-control plans (City of Oceanside 2024b). Therefore, the project would be in conformance with the zoning and land use designated in the City's General Plan. Thus, the project is consistent with the zoning designation and is anticipated in the local plan and SANDAG's growth projections. The project would not conflict with or obstruct implementation of the applicable air quality plan, and impacts would be **less than significant**.

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

Past, present, and future development projects may contribute to the SDAB adverse air quality impacts on a cumulative basis. By its nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SDAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are used in the determination of whether a project's individual emissions would have a cumulatively considerable contribution on air quality. If a project's emissions would exceed the applied significance thresholds, it would have a cumulatively considerable contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

Construction and operation of the project would result in emissions of criteria air pollutants, which may result in a cumulatively considerable net increase in emissions of criteria air pollutants for which the SDAB is designated as nonattainment under the NAAQS or CAAQS. The SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3, particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}, or coarse particulate matter), and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$, or fine particulate matter). The following discussion quantitatively evaluates potential short-term construction and long-term operational impacts that would result from implementation of the project.

Construction Emissions

Less-Than-Significant Impact. Proposed construction activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and volatile organic compounds (VOC) off-gassing) and off-site sources (i.e., on-road vendor trucks, haul trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity; the specific type of operation; and, for particulate matter, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated.

The California Emissions Estimator Model (CalEEMod) Version 2022.1.1 was used to estimate emissions from construction of the project. Internal combustion engines used by construction equipment, trucks, and worker vehicles would result in emissions of VOCs, oxides of nitrogen (NO_x), carbon monoxide (CO), PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions would also be generated by entrained dust, which results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil. The project would be required to comply with SDAPCD Rule 55 (Fugitive Dust Control) to control dust emissions generated during any dust-generating activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active dust areas two times per day as appropriate, with additional watering depending on weather conditions. The project would involve application of coating (e.g., paint and other finishes) for road segment striping for portions of roadway repaired from open-cut construction.

Emissions from the construction phase of the project were estimated using CalEEMod based on project-specific information and default values. Construction was modeled beginning in July 2026 and concluding in November 2027The analysis contained herein is based on the following schedule assumptions (duration of phases is approximate):

- Culvert 1 – pod 6/7
  - Site Preparation: 2 days (May 2027)
  - Demolition: open-cut roadway, removal of existing culverts: 7 days (May-June 2027)
  - Grading: trenching foundation preparation: 7 days (June 2027)
  - Culvert Construction: 18 days (June 2027)
  - Paving: replacement of open-cut roadway: 7 days (June 2027)
  - Road Striping: 6 days (June 2027)
- Culvert 2 – pod 4
  - Site Preparation: 2 days (October 2027)
  - Demolition: open-cut roadway, removal of existing culverts: 6 days (October-November2027)
  - Grading: trenching foundation preparation: 7 days (November 2027)
  - Culvert Construction: 19 days (November 2027)
  - Paving: replacement of open-cut roadway: 4 days (November2027)
  - Road Striping: 3 days (November2027)
- Culvert 3 – pod 3
  - Site Preparation: 3 days (August 2026)
  - Demolition: open-cut roadway, removal of existing culverts: 7 days (August 2026)

- Grading: trenching foundation preparation: 8 days (August-September 2026)
- Culvert Construction: 11 days (September 2026)
- Paving: replacement of open-cut roadway: 7 days (September 2026)
- Road Striping: 10 days (September-October2026)

▪ Culvert 4 – pod 1

- Site Preparation: 3 days (July 2026)
- Demolition: open-cut roadway, removal of existing culverts: 7 days (July 2026)
- Grading: trenching foundation preparation: 6 days (July 2026)
- Culvert Construction: 10 days (July 2026)
- Paving: replacement of open-cut roadway: 6 days (September 2026)
- Road Striping: 5 days (September-October 2026)

Construction modeling assumptions for equipment and vehicles are provided in Table 3.3-1. Equipment mix and horsepower were based on CalEEMod default values, including equipment load factor. Export materials include 75, 69, 67, and 153 cubic yards of material for Culvert 1, Culvert 2, Culvert 3, and Culvert 4, respectively. For the analysis, it was generally assumed that heavy-duty construction equipment would be operating at each site 5 days per week.

Table 3.3-1. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Site Preparation	10	4	0	Tractors/loaders/backhoes	1	8
Demolition	12	4	0	Rubber-tired dozers	1	1
				Concrete/industrial saws	1	8
				Tractors/loaders/backhoes	1	6
Grading	12	4	2 (Culvert 1) 2 (Culvert 2) 2 (Culvert 3) 6 (Culvert 4)	Excavators	1	8
				Plate compactor	1	8
				Rubber-tired dozers	1	6
				Tractors/loaders/backhoes	1	7
Culvert Construction	10	4	0	Cranes	1	4
				Forklifts	2	6
				Excavators	1	8
				Tractors/loaders/backhoes	1	8
				Cement mortar mixers	1	8
Paving	10	4	0	Pavers	1	8
				Paving equipment	1	8
				Rollers	1	8

Table 3.3-1. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Road Striping	10	4	0	Air compressors	1	6

Source: Appendix A.
Notes: Construction scenario assumptions apply to Culverts 1–4 individually, except where numbers are specifically noted for individual culverts.

Table 3.3-2 presents the estimated maximum daily construction emissions generated during construction of the project. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix A, Air Quality and Greenhouse Gas Emissions Output Files.

Table 3.3-2. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions – Unmitigated

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2026	0.96	8.94	8.98	0.02	5.50	2.91
2027	0.92	8.26	8.79	0.02	5.40	2.86
Maximum	0.96	8.94	8.94	0.02	5.50	2.91
SDAPCD Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SDAPCD = San Diego Air Pollution Control District.
See Appendix A for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect CalEEMod "mitigated" output, which accounts for compliance with low-VOC paints and implementation of the project's fugitive dust control strategies, including the watering of the project sites and unpaved roads two times per day.

As shown in Table 3.3-2, daily construction emissions would not exceed the SDAPCD significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction in all construction years. Construction-generated emissions would be temporary and would not represent a long-term source of criteria air pollutant emissions. Thus, impacts would be **less than significant.**

Operation Emissions

Less-Than-Significant Impact. The project involves the replacement of four existing drainage culverts located north of the San Luis Rey River, including three along North River Road and one along Sleeping Indian Road. The purpose of the project is to address the flooding issues caused by the existing culverts. The existing culverts are pipes under the road with unimproved inlets and outlets connected to dirt ditches. These inadequate structures fail to manage stormwater effectively, leading to frequent flooding and associated damage. The proposed project involves constructing new, larger culverts designed to enhance drainage capacity and mitigate flooding. By improving the flow of water through these upgraded culverts, the project aims to protect the roadway and surrounding areas from water damage, ensuring safer and

more reliable infrastructure for the community. Operation of the project would not generate air pollutant emissions. Thus, impacts would be **less than significant.**

Cumulative Impacts

Less-Than-Significant Impact. Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SDAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality. As described above, the project would have a less-than-significant impact for short-term construction and long-term operations.

The SDAB is a nonattainment area for O_3 under the NAAQS and CAAQS. The poor air quality in the SDAB is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emission sources. Projects that emit these pollutants or their precursors (i.e., VOCs and NO_x for O_3) potentially contribute to poor air quality. In analyzing cumulative impacts from a project, the analysis must specifically evaluate the project's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If the project does not exceed thresholds and is determined to have less-than-significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, a project would only be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

Additionally, for the SDAB, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions in the basin to ensure the SDAB continues to make progress toward NAAQS and CAAQS attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the regional planning documents upon which the RAQS is based would have the potential to result in cumulative operational impacts if they represent development and population increases beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SDAB. As discussed previously, the project would not exceed significance thresholds during construction and would not result in operational emissions. As such, the project would result in less-than-significant impacts to air quality relative to emissions.

Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and the SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and the County as part of the development of their general plans. Therefore, projects that involve development consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As stated previously, the project would be consistent with the zoning designation

and would not result in significant regional growth that is not accounted for within the RAQS. As a result, the project would not result in a cumulatively considerable contribution to regional O_3 concentrations or other criteria pollutant emissions. Cumulative impacts would be **less than significant** during operation.

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

Less-Than-Significant Impact. Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts upon those persons termed sensitive receptors are the most serious hazards of existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. Sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health-care facilities, rehabilitation centers, convalescent centers, and retirement homes. The closest known sensitive receptor (single-family residences) is located more than 500 feet west of Culvert 4 and more than 180 feet northeast of Culvert 2.

Health Impacts of Toxic Air Contaminants

In addition to impacts from criteria pollutants, certain projects may include emissions of pollutants identified by the state and federal government as toxic air contaminants (TACs) or hazardous air pollutants. State law has established the framework for California's TAC identification and control project, which is generally more stringent than the federal project, and is aimed at TACs that are a problem in California. The state has formally identified more than 200 substances as TACs, including the federal hazardous air pollutants, and is adopting appropriate control measures for sources of these TACs.

Diesel particulate matter (DPM) emissions would be emitted from heavy equipment operations and heavy-duty trucks. Heavy-duty construction equipment is subject to a CARB Airborne Toxics Control Measure for in-use diesel construction equipment to reduce DPM emissions. PM_{10}, and $PM_{2.5}$ (representative of DPM) exposure as a result of the project would be minimal. According to the Office of Environmental Health Hazard Assessment, health risk assessments (which determine the exposure of sensitive receptors to toxic emissions) should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should also be limited to the period/duration of activities associated with the project. The estimated 6-month duration of the proposed construction activities would constitute a small percentage of the total 30-year exposure period, and there are no permanent TAC emissions associated with the project. The culvert construction sites are in an agricultural area of northern Oceanside with few residential units located nearby. The majority of PM_{10} emissions shown in Table 3.3-2 are fugitive dust emissions from vehicle travel and not DPM emissions from combustion of diesel fuel. Therefore, due to this relatively short period of exposure and minimal DPM emissions on site, TACs generated during construction are not expected to result in concentrations that would cause significant health risks.

Valley Fever

Coccidioidomycosis, more commonly known as "valley fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. When fungal spores are present, any activity that disturbs the soil, such as digging, grading, or other

earthmoving operations, can cause the spores to become airborne and thereby increase the risk of exposure. The ecological factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils.

The County is not considered a highly endemic region for valley fever, as the San Diego County Health and Human Services Agency is listed as having 5.5 cases per 100,000 people. The project sites are located within the 92054 zip code; the number of incidences of coccidioidomycosis in this area is even lower, with a reported rate of 4.1 per 100,000 (Nelson, pers. comm., 2019). For comparison, statewide incidences in 2018 were 18.8 per 100,000 people (CDPH 2019).

Even if present at a site, earthmoving activities may not result in increased incidence of valley fever. Propagation of *Coccidioides immitis* is dependent on climatic conditions, with the potential for growth and surface exposure highest following early seasonal rains and long dry spells. *Coccidioides immitis* spores can be released when filaments are disturbed by earthmoving activities, although receptors must be exposed to and inhale the spores to be at increased risk of developing valley fever. Moreover, exposure to *Coccidioides immitis* does not guarantee that an individual will become ill—approximately 60% of people exposed to the fungal spores are asymptomatic, showing no signs of an infection (USGS 2000).

The project would be consistent with SDAPCD Rule 55, which limits the amount of fugitive dust generated during construction and would also control the release of the *Coccidioides immitis* fungus from construction activities by watering two times per day. Based on the low incidence rate of coccidioidomycosis in the project area and in greater San Diego County and the project's implementation of dust control strategies, it is not anticipated that earthmoving activities during project construction would result in exposure of nearby sensitive receptors to valley fever. Therefore, the project would have a less-than-significant impact with respect to valley fever exposure to sensitive receptors.

Health Impacts of Carbon Monoxide

The project involves the replacement of four existing drainage culverts located north of the San Luis Rey River, including three along North River Road and one along Sleeping Indian Road. The project would not result in any operational change to traffic. Therefore, the project operation is not expected to exceed the screening threshold and would not result in a CO hotspot and would not have the potential to result in CO emissions that when totaled with the ambient concentrations would exceed a 1-hour concentration of 20 parts per million or an 8-hour average of 9 parts per million. The impact would be less than significant.

Health Effects of Other Criteria Air Pollutants

Project construction would not exceed SDAPCD thresholds for VOC, NO_x, CO, SO_x, $PM_{10,}$ or $PM_{2.5}$ and the project would not result in operational emissions.

Table 3.3-3 presents a list of the criteria pollutants and other related pollutants of concern, emission sources, associated health effects, and current SDAB attainment status.

Table 3.3-3. Pollutants, Sources, Health Effects, and Attainment Status

Pollutant	Sources	Health Effects	Attainment Status	
			NAAQS	CAAQS
O_3	Formed when VOCs and NO_x react in the presence of sunlight. VOC sources include any source that burns fuels (e.g., gasoline, natural gas, wood, oil); solvents; petroleum processing and storage.	Breathing difficulties, lung tissue damage, vegetation damage, damage to rubber and some plastics.	Nonattainment	Nonattainment
PM_{10}	Road dust, windblown dust, agriculture and construction, fireplaces. Also formed from other pollutants (NO_x, SO_x, organics). Incomplete combustion.	Increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling.	Unclassifiable/ attainment	Nonattainment
$PM_{2.5}$	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also formed from reaction of other pollutants (NO_x, SO_x, organics, and NH_3).	Increases respiratory disease, lung damage, cancer, and premature death, reduced visibility, surface soiling. Particles can aggravate heart diseases such as congestive heart failure and coronary artery disease.	Unclassifiable/ attainment	Nonattainment
CO	Any source that burns fuel such as automobiles, trucks, heavy construction and farming equipment, residential heating.	Chest pain in heart patients, headaches, reduced mental alertness.	Attainment	Attainment
NO_2	See CO.	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain.	Unclassifiable/ attainment	Attainment
Lead	Metal smelters, resource recovery, leaded gasoline, deterioration of lead-based paint.	Learning disabilities, brain and kidney damage.	Unclassifiable/ attainment	Attainment
SO_2	Coal or oil burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Unclassifiable/ attainment	Attainment
Sulfates	Produced by reaction in the air of SO_2 (see SO_2 sources), a component of acid rain.	Breathing difficulties, aggravates asthma, reduced visibility.	(No federal standard)	Attainment
Hydrogen sulfide	Geothermal power plants, petroleum production and refining, sewer gas.	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations).	(No federal standard)	Unclassified

Table 3.3-3. Pollutants, Sources, Health Effects, and Attainment Status

Pollutant	Sources	Health Effects	Attainment Status	
			NAAQS	CAAQS
Visibility-reducing particles	See $PM_{2.5}$.	Reduced visibility (e.g., obscures mountains and other scenery), reduced airport safety.	(No federal standard)	Unclassified
Vinyl chloride	Exhaust gases from factories that manufacture or process vinyl chloride (construction, packaging, and transportation industries).	Central nervous system effects (e.g., dizziness, drowsiness, headaches), kidney irritation, liver damage, liver cancer.	N/A	N/A

Sources: County of San Diego 2007 (pollutant descriptions); EPA 2025 (federal); CARB 2019 (state).
Notes: NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; O_3 = ozone; VOC = volatile organic compound; NO_x = oxides of nitrogen; PM_{10} = coarse particulate matter; SO_x = sulfur oxides; $PM_{2.5}$ = fine particulate matter; NH3 = ammonia; CO = carbon monoxide; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide; N/A = not applicable.

VOCs and NO_x are precursors to O_3, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS. The health effects associated with O_3 are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SDAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur, because exceedances of the O_3 CAAQS/NAAQS tend to occur between April and October when solar radiation is highest. Due to the lack of quantitative methods to assess this complex photochemistry, the holistic effect of a single project's emissions of O_3 precursors is speculative. Construction and operation of the project would not exceed SDAPCD thresholds for VOC and NO_x; thus, implementation of the project would not contribute significant health effects associated with O_3. SDAPCD Rule 67.0.1 restricts the VOC content of coatings for both construction and operational applications.

Health effects associated with NO_x include lung irritation and enhanced allergic responses (CARB 2019). Construction of the project would not contribute to exceedances of the NAAQS and CAAQS for NO_2. Health effects that result from NO_2 and NO_x include respiratory irritation, which could be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. Project construction would be relatively short-term and existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Operation of the project would not result in emissions of any criteria air pollutant.

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness (CARB 2019). CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots was discussed previously and was determined to be a less-than-significant impact. Thus, the project's CO emissions would not contribute to significant health effects associated with this pollutant.

Health effects associated with PM_{10} include premature death and hospitalization, primarily for worsening of respiratory disease (CARB 2019). Construction of the project would also not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter or

obstruct the SDAB from coming into attainment for these pollutants. Operation of the project would not result in emissions of any criteria air pollutant. The project would also not result in substantial DPM emissions during construction, and therefore would not result in significant health effects related to DPM exposure. Additionally, the project would implement dust control strategies and be required to comply with SDAPCD Rule 55, which limits the amount of fugitive dust generated during construction. Due to the minimal contribution of particulate matter during construction, the project is not anticipated to result in health effects associated with PM_{10} or $PM_{2.5}$.

In summary, because construction of the project would not result in exceedances of the SDAPCD significance thresholds, the potential health effects associated with criteria air pollutants would be **less than significant**.

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

Less-Than-Significant Impact. The State of California Health and Safety Code, Division 26, Part 4, Chapter 3, Section 41700, SDAPCD Rule 51, prohibits emissions from any source whatsoever in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Projects required to obtain permits from SDAPCD 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.

SDAPCD Rule 51 (Public Nuisance) also prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that involves a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors. Odor issues are very subjective by the nature of odors themselves and due to the fact that their measurements are difficult to quantify. As a result, this guideline is qualitative and will focus on the existing and potential surrounding uses and location of sensitive receptors.

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of the receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and from asphalt pavement application and striping. Such odors would disperse rapidly from the project sites and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with other emissions (such as those leading to odors) during construction would be less than significant.

Land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding facilities. The project involves the replacement of four existing drainage culverts located north of the San Luis Rey River, including three along North River Road and one along

Sleeping Indian Road, and would not result in the creation of a land use that is commonly associated with odors. Therefore, project operations would not result in odor emissions, and the project impact would be **less than significant**.

3.4 Biological Resources

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

Setting

Dudek biologists Josh Elson, Eilleen Salas, and Kimberly Narel conducted a general biological resources survey of the study area (the project sites plus a 300-foot buffer) on January 16, 2025, and February 21, 2025. The purpose of the field survey was to identify and characterize biological resources within and adjacent to the project sites, with particular focus on the potential of the sites to support special-status plant and wildlife species and other sensitive resources, such as riparian habitat and jurisdictional aquatic resources (i.e., wetlands and other waters of the United States and/or state). A biological resources technical report (BRTR) was prepared, which includes a detailed description of the biological resources existing setting, the methods of the survey, and the survey results. The BRTR is included as Appendix B of this IS/MND.

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

Less-Than-Significant Impact with Mitigation Incorporated. As mentioned above, a BRTR was prepared for the project sites and vicinity (Appendix B). As stated in Appendix B, no special-status plant species have the potential to occur on or adjacent to the project sites.

The BRTR concluded that 14 special-status wildlife species have a moderate to high potential to occur within the study area: south coast gartersnake (*Thamnophis sirtalis* ssp.), southwestern pond turtle (*Actinemys pallida*), Cooper's hawk (*Accipiter cooperii*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), southwestern willow flycatcher (*Empidonax traillii extimus*), yellow-breasted chat (*Icteria virens*), yellow warbler (*Setophaga petechia*), least Bell's vireo (*Vireo bellii pusillus*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), western mastiff bat (*Eumops perotis californicus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and Crotch's bumble bee (*Bombus crotchii*). Four wildlife species that are listed as threatened or endangered under the federal and California Endangered Species Acts were determined to have a low potential to occur within the study area but were included in this analysis due to their listing: western spadefoot (*Spea hammondii*), tricolored blackbird (*Agelaius tricolor*), coastal California gnatcatcher (*Polioptila californica californica*), and Stephens' kangaroo rat (*Dipodomys stephensi*). Critical habitat for least Bell's vireo, arroyo toad (*Anaxyrus californicus*), and southwestern willow flycatcher has been designated within the San Luis Rey River riparian corridor along North River Road.

All of the species above have potential to occur within coastal sage scrub habitat or riparian communities, which are present within the study area. However, within the impact area, landcovers consist of developed or disturbed areas, with the exception of 0.08 acres of mulefat scrub habitat on the south side of North River Road. Developed or disturbed areas are not suitable for the species above. Suitable nesting habitat for least Bell's vireo is present within the San Luis Rey River riparian corridor along North River Road within the mulefat scrub. Furthermore, this species was documented within the study area in 2013, and U.S. Fish and Wildlife Service–designated Critical Habitat for this species overlaps the study area. As such, there is high potential for this species to occur within the study area. Direct impacts to all nesting birds, which would include least Bell's vireo if the species were present, would be avoided through implementation of **Mitigation Measure (MM) BIO-1** (Minimize Construction-Related Indirect Impacts to Biological Resources), **MM-BIO-2** (Biological Monitoring), and **MM-BIO-3** (Nesting Bird Surveys).

Potential indirect impacts on special-status wildlife resulting from construction activities include the release of chemical pollutants; generation of fugitive dust, vibration, and increased human presence; and nighttime lighting. Additionally, adverse effects from noise could result from project construction activities, which has the potential to disrupt foraging, nesting, and reproductive activities of special-status birds such as Cooper's hawk, Southern California rufous-crowned sparrow, western yellow-billed cuckoo, southwestern willow flycatcher, yellow-breasted chat, yellow warbler, least Bell's vireo, tri-colored blackbird and coastal California gnatcatcher. These potential construction-related indirect impacts to special-status wildlife would be potentially significant absent mitigation.

Project implementation of **MM-BIO-1** (Minimize Construction-Related Indirect Impacts to Biological Resources) and **MM-BIO-2** (Biological Monitoring) would reduce potential indirect impacts to a less-than-significant level through delineation of project boundaries, development of a stormwater pollution prevention plan (SWPPP), implementation of standard dust control measures, requirement that all vehicles and equipment be serviced in designated staging areas, mandating that construction will not be conducted at night, biological monitoring and requirement of a Worker Environmental Awareness Training. Additionally, potential noise impacts to nesting birds would be avoided and minimized through implementation of **MM- BIO-3** (Nesting Bird Surveys), which requires a nesting bird survey to be conducted within the project area and a 500-foot buffer 72 hours prior to any construction activities should work be conducted during the breeding season, and the implementation of appropriate disturbance avoidances buffers for any active nests.

Implementation of **MM-BIO-1 through MM-BIO-3** would reduce construction-related indirect impacts to special-status wildlife to **less than significant with mitigation incorporated**.

MM-BIO-1 Minimize Construction-Related Indirect Impacts to Biological Resources. Prior to issuance of a grading permit, the Project's Applicant/Developer shall include the following in the construction contractor's plans and specifications to address indirect construction-related impacts to special-status species:

- **Delineation of Property Boundaries.** Before beginning activities that would cause impacts, the contractor shall, in consultation with the biological monitor, clearly delineate the boundaries with fencing, stakes, or flags, consistent with the grading plan, within which the impacts will take place. All impacts outside the fenced, staked, or flagged areas shall be avoided, and all fencing, stakes, and flags shall be maintained until the completion of impacts in that area. In addition, any avoided environmental resources shall be clearly delineated. Prior to implementing construction activities, the biological monitor shall verify that the flagging clearly delineates the construction limits and any sensitive environmental resources to be avoided.
- **Standard Dust Control Measures.** Standard dust control measures as per the South Coast Air Quality Management District shall be implemented to reduce dust impacts on nearby conserved lands, plants, and wildlife. Measures include controlling speed to 15 mph or less on unpaved roads, replacing ground cover in disturbed areas as quickly as possible, frequently watering active work sites, installing shaker plates, and suspending excavation and grading operations during periods of high winds.
- **Stormwater Pollution Prevention Plan.** Prior to issuance of a grading permit for construction, the applicant shall submit a stormwater pollution prevention plan

(SWPPP) to the City of Oceanside that specifies best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving off site and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Best management practices categories employed on site would include erosion control, sediment control, and non-stormwater (good housekeeping).

- **Minimize Spills of Hazardous Materials.** All vehicles and equipment shall be maintained in proper condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Hazardous spills and contaminated soil shall be immediately cleaned up and the contaminated soil shall be properly handled or disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated staging area.
- **Wildlife Hazards.** The following measures shall be implemented to ensure that wildlife do not become trapped, entangled, injured, or poisoned by construction activities:
  - Structures in which wildlife may become trapped (e.g., open pipes, pits, trenches) shall be tightly covered at the end of each work day. If covering the structure is not possible, an escape ramp shall be provided to allow any wildlife that falls in to safely escape.
  - Debris piles, construction materials, equipment, and other items that may be used as wildlife refuge shall be inspected for wildlife at the start of each work day and prior to disturbance. If wildlife is discovered, it shall either be moved out of harm's way by a qualified biologist or allowed to move off of the study area on its own.
  - Nets and mesh shall be made of loose-weave material that is not fused at the intersections of the weave, as nets with welded weaves present an entanglement risk.
  - Toxic materials and garbage shall be removed from the work site and safely stored or disposed of at the end of each work day.
- **Night Work.** All short-term construction lighting shall be facing active work areas only and shall be shielded to avoid light spillover and shall be directed away from adjacent open space areas to protect native wildlife from direct lighting. If lighting is required during construction activities that would occur during or after sunset, the lighting fixtures shall be located on the interior of work areas with a minimum of 50-foot buffer from the edge of adjacent open space

MM-BIO-2 Biological Monitoring. To prevent inadvertent disturbance to areas outside the limits of grading, all project activities with the potential to impact native vegetation shall be monitored by a biologist. The biological monitor(s) shall be contracted to perform biological monitoring during all vegetation removal activities and periodic monitoring during and after vegetation removal when recommended by a Qualified Biologist. The project biologist(s) also shall do the following:

a. Attend the pre-construction meeting with the contractor and other key construction personnel prior to construction activities to reduce conflict between the timing and

location of construction activities with other mitigation requirements (e.g., seasonal surveys for nesting birds).

b. The Qualified Biologist shall conduct a training session for all project personnel prior to any construction activities. At a minimum the training shall include a description of the target species of concern, its habitats, the general provisions of the Endangered Species Act (Act) and the MHCP, the need to adhere to the provision of the Act and the MHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the target species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished. Prior to clearing and grubbing, the project biologist shall conduct meetings with the contractor and other key construction personnel each morning prior to construction activities to go over the proposed activities for the day, and for the monitor(s) to describe the importance of restricting work to designated areas and of minimizing harm to or harassment of wildlife.

c. Review and/or designate the construction area in the field with the contractor in accordance with the final grading plan prior to activities.

d. Supervise and monitor construction activities weekly to ensure against direct and indirect impacts to biological resources that are intended to be protected and preserved and to document that protective fencing is intact.

e. Flush wildlife species (e.g., reptiles, mammals, avian, and other mobile species) from occupied habitat areas immediately prior to brush-clearing activities. This does not include disturbance to nesting birds (see MM-BIO-2) or "flushing" of federally listed species (i.e., coastal California gnatcatcher).

f. Periodically monitor the construction site to verify that the project is implementing the following stormwater pollution prevention plan best management practices: dust control, silt fencing, removal of construction debris and a clean work area, covered trash receptacles that are animal-proof and weather-proof, prohibition of pets on the construction site, and a speed limit of 15 miles per hour.

g. Periodically monitor the construction site after grading is completed and during the construction phase to see that artificial security light fixtures are directed away from open space and are shielded, and to document that no unauthorized impacts have occurred.

h. If dead or injured federally and/or state-listed species are found on site, the City, CDFW, and/or USFWS will be notified in compliance with applicable laws and regulations.

i. Keep monitoring notes for the duration of project construction for submittal in a final report to substantiate the biological supervision of the vegetation clearing and grading activities and the protection of biological resources.

j. Prepare a monitoring report after construction activities are completed that describes the biological monitoring activities, including a monitoring log; photos of the site before, during, and after the grading and clearing activities; and a list of special-status species observed.

k. Halt work, if necessary, and confer with the City of Oceanside to ensure the proper implementation of special-status species and sensitive resource protection measures.

l. Submit a final report to the City of Oceanside within 60 days of project completion that includes as-built construction drawings with an overlay of habitat that was impacted and avoided, photographs of habitat areas that were to be avoided, and other relevant summary information documenting that authorized impacts were not exceeded and that compliance with all measures was achieved.

MM-BIO-3 Nesting Bird Surveys. Construction-related ground-disturbing activities (e.g., clearing/ grubbing, grading, and other intensive activities) that occur during the avian breeding season (typically February 1 through September 15) shall require a one-time biological survey for nesting bird species to be conducted within the limits of grading and a 500-foot buffer (where feasible) within 72 hours prior to construction. This survey is necessary to ensure avoidance of impacts to nesting raptors and other birds protected by the federal Migratory Bird Treaty Act and California Fish and Game Code Sections 3503 and 3513. If any active nests are detected, the area shall be flagged and mapped on the construction plans or a biological resources figure, and the information provided to the construction supervisor and any personnel working near the nest buffer. Active nests shall have avoidance buffers established around them (e.g., 250 feet for passerines to 500 feet for raptors) by the project biologist in the field with brightly colored flagging tape, conspicuous fencing, or other appropriate barriers or signage. The project biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to avoid inadvertent impacts to these nests. The project biologist may adjust the 250-foot or 500-foot buffer at their discretion depending on the species and the location of the nest (e.g., if the nest is well protected in an area buffered by dense vegetation). However, if needed, additional qualified monitor(s) shall be provided to monitor active nest(s) or other project activities in order to ensure all of the project biologist's duties are completed. Once the nest is determined by a qualified monitor to be no longer occupied for the season, construction may proceed in the buffer areas.

If construction activities, particularly clearing/grubbing, grading, and other intensive activities, stop for more than 3 days, an additional nesting bird survey shall be conducted within the proposed work area and a 500-foot buffer, where feasible.

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

Less-Than-Significant Impact with Mitigation Incorporated. Five sensitive vegetation communities were identified within the study area: southern arroyo willow riparian forest, disturbed southern riparian scrub, mulefat scrub, Diegan coastal sage scrub, and non-vegetated channel or floodway. Of these, only mulefat scrub occurs within proposed work area boundaries. There is potential for direct impacts to 0.37 acres of mulefat scrub in the southern portion of the work area; however, it would be limited to the minimal extent of vegetation removal needed to complete construction activities. Given how small the area of mulefat scrub to potentially be impacted is, the incremental loss of the habitat on the project site would not be expected to diminish the abundance of these habitats on a regional level. Additionally, Project implementation of **MM-BIO-1** (Minimize Construction-Related Indirect Impacts to Biological Resources) and **MM-BIO-3** (Biological Monitoring) would help to further reduce potential direct impacts to special-status

vegetation communities through delineation of Project boundaries, biological monitoring, and requirement of Worker Environmental Awareness Training,

The proposed project would result in permanent direct impacts to agriculture, urban/developed, disturbed habitat, mulefat scrub, and non-native riparian. These impacts are summarized in Table 3.4-1 and their spatial distributions are shown in Figure 6, Impacts to Biological Resources, in Appendix B.

Table 3.4-1. Impacts to Vegetation Communities

Vegetation Community/ Land Cover Type	Proposed Impacts (Acres)	Total Within Study Area (Acres)[a]	Mitigation	
			Minimum Mitigation Ratio	Mitigation Required (Acres)[a]
Agriculture	0.01	11.12	None	0.00
Urban/developed	0.10	3.86	None	0.00
Disturbed habitat	0.01	1.93	None	0.00
Mulefat scrub	0.08	2.01	1:1	0.08
Non-native riparian	0.02	0.19	1:1	0.02
Total[a]	**0.22**	**19.11**	**N/A**	**0.10**

Notes: N/A = not applicable.
[a] Acreages may not sum precisely due to rounding.

Impacts to mulefat scrub require mitigation, per Table 5-2, Mitigation Standards for Impacts to Natural Vegetation and Habitat, in the Oceanside Subarea Habitat Conservation Plan/Natural Community Conservation Plan (Oceanside Subarea Plan; City of Oceanside 2010a). The mulefat scrub within the proposed work area also overlaps with CDFW jurisdiction and is considered riparian vegetation. Permanent impacts to mulefat scrub are considered a potentially significant impact. The permanent loss of this vegetation community would be mitigated to less than significant with the implementation of **MM-BIO-2** (Biological Monitoring)**.** Impacts will be mitigated at a minimum of a 1:1 ratio with establishment or re-establishment for impacts on aquatic resources as a part of an overall strategy to ensure no net loss. If establishment or re-establishment mitigation is not available, a higher ratio may be needed to achieve no net loss. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with the U.S. Army Corps of Engineers, RWQCB, and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.

Direct impacts to sensitive vegetation communities would be mitigated to a level below significant with implementation of **MM-BIO-4** (Compensation for Unavoidable Loss of Wetlands and Other Aquatic Resources) and potentially significant direct impacts to sensitive vegetation would be avoided through implementation of **MM-BIO-1** (Minimize Construction-Related Indirect Impacts to Biological Resources), and **MM-BIO-2** (Biological Monitoring). Therefore, impacts would be **less than significant with mitigation incorporated**.

MM-BIO-4 Compensation for Unavoidable Loss of Wetlands and Other Aquatic Resources. If temporary or permanent loss of protected wetlands and other aquatic resources cannot feasibly be avoided, the project proponent will implement the following actions:

- Prior to project activities, the project proponent will coordinate with the USACE Los Angeles District and San Diego RWQCB staff to assure conformance with permitting requirements of Section 401 and 404 of the Clean Water Act and the Porter–Cologne Water Quality Control Act. Prior to activity within CDFW-jurisdictional lake or streambed or associated riparian habitat, the project proponent will coordinate with the appropriate CDFW South Coast Region staff to assure conformance with California Fish and Game Code Section 1600 permitting requirements.
- As part of the permit application process, the project proponent will sufficiently mitigate to ensure no-net-loss of waters at a minimum of 1:1 with establishment or re-establishment for impacts on aquatic resources as a part of an overall strategy to ensure no net loss. If establishment or re-establishment mitigation is not available, a higher ratio may be needed to achieve no net loss. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with USACE, RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.
- Should applicant-sponsored mitigation be implemented, a mitigation and monitoring plan (Plan) will be prepared in accordance with resource agency guidelines and approved by the agencies in accordance with the proposed permits. The Plan will include but is not limited to a conceptual planting plan including planting zones, grading, and irrigation, as applicable; a conceptual planting plant palette; a long-term maintenance and monitoring plan; annual reporting requirements; proposed success criteria; legal and funding mechanisms; and parties responsible for long-term management and monitoring of the restored or enhanced habitat. Any off-site applicant-sponsored mitigation shall be conserved and managed in perpetuity.
- As part of the permit application process, the project proponent will mitigate impacts to sensitive riparian vegetation communities to a less than significant level through preservation of the requisite habitat in perpetuity. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with USACE, RWQCB, and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.
- Best management practices shall be implemented to avoid any indirect impacts to jurisdictional waters, as follows:
    1. Vehicles and equipment shall not be operated in ponded or flowing water except as described in permits.
    2. Water containing mud, silt, or other pollutants from grading or other activities shall not be allowed to enter jurisdictional waters or be placed in locations that may be subjected to high storm flows.
    3. Spoil sites shall not be located within 30 feet from the boundaries of jurisdictional waters or in locations that may be subject to high storm flows where spoils might be washed back into drainages.
    4. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources resulting from Proposed Project-

related activities shall be prevented from contaminating the soil and/or entering avoided jurisdictional waters.

5. No equipment maintenance shall be performed within 100 feet of jurisdictional waters, including wetlands and riparian areas, where petroleum products or other pollutants from the equipment may enter these areas. Fueling of equipment shall not occur on the project site

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

Appendix B presents the results of a delineation of jurisdictional waters performed for the project. The project work area boundaries overlap with non-wetland waters features that are under federal and state jurisdiction, and the project would result in direct permanent and temporary impacts to the jurisdictional resources summarized in Appendix B. These impacts are shown in Figure 7, Impacts to Jurisdictional Resources, in Appendix B, and summarized in this MND in Tables 3.4-2 through 3.4-4.

Direct Impacts

Less-Than-Significant Impact with Mitigation Incorporated. Direct impacts to state-regulated aquatic resources would be reduced to a less-than-significant level through incorporation of **MM-BIO-4** (Compensation for Unavoidable Loss of Wetlands and Other Aquatic Resources), which requires consultation with the U.S. Army Corps of Engineers, RWQCB, and CDFW agency staff to ensure no net loss of regulated aquatic resources. Following implementation of **MM-BIO-4**, direct impacts to jurisdictional wetlands and waters would be **less than significant with mitigation incorporated**.

Table 3.4-2. Impacts to USACE Aquatic Resources (Non-Wetland Waters)

Feature Name	Total Acreage Within the Study Area	Temporarily Impacted Acres	Permanently Impacted Acres
San Luis Rey River Floodplain	2.60	0.37	0.76
Total	**2.60**	**0.37**	**0.76**

Note: USACE = U.S. Army Corps of Engineers.

Table 3.4-3. Impacts to RWQCB Aquatic Resources (Non-Wetland Waters)

Feature Name	Total Acreage Within the Study Area	Temporarily Impacted Acres	Permanently Impacted Acres
NWW-01	0.02	0.005	0.006
NWW-02	0.03	0.004	0.004
NWW-03[1]	0.00	0.000	0.000
NWW-04	0.05	0.015	0.007
NWW-05	0.03	0.006	0.005
San Luis Rey River	0.01	0.002	0.000
Total	**0.14**	**0.032**	**0.022**

Note: RWQCB = Regional Water Quality Control Board; NWW = non-wetland water.
Total may not add up to rounding
[1] NWW-03 is contiguous with the San Luis Rey River

Table 3.4-4. Impacts to CDFW Aquatic Resources

Feature Name	Total Acreage Within the Study Area	Temporarily Impacted Acres	Permanently Impacted Acres
Streambed and Bank			
NWW-01	0.04	0.003	0.006
NWW-02	0.05	0.011	0.004
NWW-03	0.01	0.002	0.000
NWW-04	0.08	0.015	0.007
NWW-05	0.04	0.013	0.005
Streambed and Bank Subtotal	*0.22*	*0.044*	*0.022*
Riparian			
Mule fat scrub	1.59	0.353	0.076
Southern riparian scrub	0.12	0.000	0.000
Southern arroyo willow riparian forest	1.02	0.013	0.000
Non-native riparian	0.24	0.081	0.017
Riparian Subtotal	*2.96*	*0.447*	*0.093*
Total[a]	**3.18**	**0.491**	**0.115**

Notes: CDFW = California Department of Fish and Wildlife; NWW = non-wetland water.
[a] Totals may not sum due to rounding.

Indirect Impacts

Less-Than-Significant Impact. Potential temporary indirect impacts could result from construction activities and would include impacts from the generation of fugitive dust and the potential introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, and transpiration; increased penetration of phytotoxic gaseous pollutants; and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/jurisdictional

waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. However, during construction, erosion-control measures would be implemented as part of the SWPPP for the project. Prior to the start of construction activities, the contractor is required to file a Permit Registration Document with the State Water Resources Control Board in order to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS000002) or the latest approved general permit. This permit is required for earthwork that results in the disturbance of 1 acre or more of total land area. The required SWPPP will mandate the implementation of best management practices (BMPs) to reduce or eliminate construction-related pollutants in the runoff, including sediment. Therefore, temporary indirect impacts would be **less than significant** due to compliance with regulations.

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

Less-Than-Significant Impact with Mitigation Incorporated. While the study area does not occur within any designated wildlife corridors or habitat linkages identified in the South Coast Missing Linkages analysis conducted by South Coast Wildlands (2008) or CDFW's California Essential Habitat Connectivity Project (Spencer et al. 2010), the San Luis Rey River riparian corridor present in the southern portion of the study area provides for wildlife movement. The area has the potential to provide foraging and nesting habitat for raptors and special-status birds. However, only a very small portion of the project site is associated with natural habitats within the San Luis Rey River (0.08 acres of mulefat scrub). Additionally, this impacted portion of the San Luis Rey River is located on the outer edge of the river channel directly adjacent to North River Road and it is anticipated that wildlife using this corridor would easily be able to avoid this small area by moving farther into the riparian vegetation present. Furthermore, project work is anticipated to take place during the daytime, whereas most potential wildlife movement within the riparian corridor would be expected to take place during the nighttime. Direct or indirect impacts to wildlife corridors and habitat connectivity would be less than significant.

The project would be required to comply with the Migratory Bird Treaty Act and Sections 3503, 3503.5, and 3513 of the California Fish and Game Code by preventing the disturbance of nesting birds during construction activities. This would generally involve clearing a project site of all vegetation outside the nesting season (from September 1 through January 31), or if construction would commence within the nesting season (which generally runs from February 1 through August 31 and as early as February 1 for raptors), conducting a pre-construction nesting bird survey to determine the presence of nesting birds or active nests at a construction site. Any active nests and nesting birds must be protected from disturbance by construction activities through buffers between nest sites and construction activities. The buffer areas may be removed only after the birds have fledged. These requirements are outlined in **MM-BIO-2** (Nesting Bird Survey). Compliance with the Migratory Bird Treaty Act and implementation of **MM-BIO-2** would ensure that the implementation of the project would not interfere with the nesting of any native bird species. Direct and indirect impacts to nurseries would be **less than significant with mitigation incorporated**.

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

No Impact. The project would not involve removal of publicly owned trees and would not conflict with any local policies or ordinances. Therefore, **no impact** would occur.

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

Less-Than-Significant Impact with Mitigation Incorporated. The proposed project would be consistent with the requirements of the draft Oceanside Subarea Plan. Specifically, as required in Section 5.3.4 of the Oceanside Subarea Plan, the project would mitigate for impacts to special-status biological resources with mitigation within the WCPZ (Wildlife Corridor Planning Zone) or pre-approved Mitigation Areas (City of Oceanside 2010a) (**MM-BIO 1 through MM-BIO-4**). The proposed project would directly impact 0.08 acres of vegetation communities that would require mitigation under the Oceanside Subarea Plan.

These vegetation communities function as a small piece of a larger habitat corridor along the San Luis Rey River. Therefore, mitigation occurring within the riparian corridor of the San Luis Rey River would provide preservation of biologically equivalent or superior habitat, as well as fulfilling the requirements of the Oceanside Subarea Plan for habitat in the Off-Site Mitigation Zone.

Although impacts will occur within the buffer of the San Luis Rey River and the general creek/tributary buffer proposed by the Oceanside Subarea Plan, impacts will occur primarily within agricultural land (0.58 acres), developed land (0.36 acres), and disturbed habitat (0.31 acres). The remaining impacts are to 0.08 acres of mulefat scrub (City of Oceanside 2010a). Impacts within the buffer are required for necessary improvements to City stormwater infrastructure, which is an allowable use and does not fall under one of the three prohibited uses within the buffer (City of Oceanside 2010a, Section 5.2.4). Because the proposed project would mitigate these direct impacts, the proposed project would not result in a loss of vegetation that is regionally significant; therefore, it would not contribute to a cumulative impact.

A small portion of the project sites is within the Agricultural Exclusion Zone north of the San Luis Rey River, as defined in Section 5.3.3 of the Oceanside Subarea Plan. Discretionary actions, conversions to nonagricultural uses, or removal of habitat within the Agricultural Exclusion Zone will be subject to the conservation guidelines listed in Section 5.3.3 and to the Citywide conservation policies presented in Section 5.2 of the Oceanside Subarea Plan (City of Oceanside 2010a). Land use within the Agricultural Exclusion Zone would not change as a result of the proposed project. Impacts within the Agricultural Exclusion Zone would be limited to a strip of disturbed habitat along the northern shoulder of North River Road and would not disturb or remove any wildlife habitat.

The proposed project would be consistent with the requirements of all local habitat conservation plans. Therefore, direct and indirect impacts would be **less than significant with mitigation incorporated.**

3.5 Cultural Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

The Cultural Resources Inventory Report for the North River Road and Sleeping Indian Road Drainage Improvement Project was prepared for the project and is included as Appendix C to this MND.

Cultural Resources Inventory Methods

Cultural resources inventory efforts conducted for the project include a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search, California Historical Resources Information System records search, archival research, review of geomorphological context, NAHC and tribal correspondence, and an intensive pedestrian survey.

For information on tribal consultation and outreach, please see Section 3.18, Tribal Cultural Resources, of this MND.

Records Search Results

Dudek staff requested a California Historical Resources Information System records search from the South Coastal Information Center. A total of 33 cultural resources were identified within 1 mile of the project area and none of these resources were identified within the project area. A total of 2 historic period addresses were identified within 1 mile of the project area. An NAHC SLF search was also requested, and results were negative.

Historical Maps and Imagery

Historical aerial photographs indicate North River Road is present, and the San Luis Rey River is present to the south of the project area in 1938. Sleeping Indian Road is not visible; however, a dirt trail is visible in its place with the surrounding area consisting of undeveloped or agricultural lands. The 1964 aerial depicts the Sleeping Indian Road alignment.

Historical topographic maps indicate that there is little change in the land use of the project area is indicated in the historic topographic maps from 1942 to the most recent available topographic map from 2021. The historical topographic maps indicate that no historic-age structures are located within the project area.

Geomorphological Context

According to the U.S. Department of Agriculture Natural Resources Conservation Services, the project area is located along the San Luis Rey River, which is known to have been an attractive location for prehistoric camps or habitation sites. Reoccurring alluvial action and flooding serve to support the development and presence of cultural deposits in the area. Since there are alluvial soils present throughout the project area, there is moderate potential for subsurface cultural resources.

NAHC Sacred Lands File Search

Dudek contacted the NAHC for a search of the SLF on December 6, 2024, for the project area. The results were returned to Dudek on December 26, 2024. They were negative for sacred lands within or near the project footprint. The results also included a list of Native American tribes and individuals or organizations with traditional geographic associations that might have knowledge of cultural resources in the project area. Additional tribal consultation information is discussed in Chapter 3.18, Tribal Cultural Resources.

Pedestrian Survey

An intensive pedestrian survey was conducted for the entire project footprint on January 17, 2025, by Dudek archaeologist David Faith with participation from Saving Sacred Sites Luiseño Native American Monitor Anthony Cuevas. A subsequent survey was conducted on February 21, 2025, by Dudek archaeologist Makalya Murillo with participation from Saving Sacred Sites Luiseño Native American Monitor Shea Casteneda.

Ground visibility of the project area was poor and visibility ranged from 0% to 25%. Ground surface was obscured by dead foliage and the existing development of the energy dissipater and storm drain outlets. The project area had been previously disturbed from the installment of the culverts, including the placement of riprap along some of the embankments, and the placement of concrete along the embankments. A minimal amount of modern trash was noted within the drainages. Vegetation was observed along the banks, consisting of dried grasses, castor bean (*Ricinus communis*), and willows (*Salix* spp.). No artifacts or features were identified during the survey. No cultural resources are located within the project area.

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

No Impact. The records search, NAHC SLF search, historical topographic maps and aerial photographs review, and pedestrian survey conducted for the Cultural Resources Inventory did not identify any known resources that would be disturbed by project construction; therefore, the project would not cause a substantial adverse change in the significance of a known historical resource pursuant to Section 15064.5 of the CEQA Guidelines, and **no impact** would occur.

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

Less-Than-Significant Impact with Mitigation Incorporated. The records search, NAHC SLF search, historical topographic maps and aerial photographs review, and pedestrian survey conducted for the Cultural Resources Inventory did not identify any known archaeological resources within the project site. However, the Cultural Resources Inventory Report identified moderate potential for subsurface cultural

resources due to the proximity of the San Luis Rey River, and the absence of archaeological resources within subsurface deposits cannot be confirmed. Additionally, the report recommends that a qualified archaeologist and a Traditionally and Culturally Affiliated Native American Monitor representing a Traditionally and Culturally Affiliated Luiseño Tribe are present during all ground-disturbing activities that may impact subsurface native soils. To further ensure project development would not result in potential impacts to archaeological or tribal cultural resources, the project would implement the City's standard cultural and tribal mitigation measures **MM-CUL-1** through **MM-CUL-9**. **MM-CUL-1** (Pre-Excavation Agreement), **MM-CUL-2** (Retainment of a Qualified Archaeologist and Luiseño Native American Monitor), **MM-CUL-3** (Collaborative Consultation During Monitoring), **MM-CUL-4** (Monitoring Program), **MM-CUL-5** (Controlled Grade Procedure), **MM-CUL-6** (Inadvertent Discovery and Treatment Protocol), **MM-CUL-7** (Treatment and Disposition Protocol), **MM-CUL-8** (Monitoring Report), **MM-CUL-9** (Inadvertent Discovery of Human Remains Protocol) have been included to avoid significant impacts to resources that may be uncovered during construction. Implementation of **MM-CUL-1** and **MM- CUL-9** will ensure that impacts to resources that may be uncovered during construction would be **less than significant with mitigation incorporated**.

MM-CUL-1 Prior to the issuance of a Grading Permit, the Applicant/Owner shall enter into a pre-excavation agreement, otherwise known as a Tribal Cultural Resources Treatment and Tribal Monitoring Agreement with the **"Traditionally and Culturally Affiliated (TCA) Native American Monitor associated with a TCA Luiseño Tribe".** A copy of the agreement shall be included in the Grading Plan Submittals for the Grading Permit. The purpose of this agreement shall be to formalize protocols and procedures between the Applicant/Owner and the **"Traditionally and Culturally Affiliated (TCA) Native American Monitor associated with a TCA Luiseño Tribe"** for the protection and treatment of, including but not limited to, Native American human remains, funerary objects, cultural and religious landscapes, ceremonial items, traditional gathering areas and tribal cultural resources, located and/or discovered through a monitoring program in conjunction with the construction of the proposed project, including additional archaeological surveys and/or studies, excavations, geotechnical investigations, grading, and all other ground disturbing activities. At the discretion of the Luiseño Native American Monitor, artifacts may be made available for 3D scanning/printing, with scanned/printed materials to be curated at a local repository meeting the federal standards of 36CFR79.

MM-CUL-2 Prior to the issuance of a Grading Permit, the Applicant/Owner or Grading Contractor shall provide a written and signed letter to the City of Oceanside Planning Division stating that a Qualified Archaeologist and Luiseño Native American Monitor have been retained at the Applicant/Owner or Grading Contractor's expense to implement the monitoring program, as described in the pre-excavation agreement.

MM-CUL-3 The Qualified Archaeologist shall maintain ongoing collaborative consultation with the Luiseño Native American monitor during all ground disturbing activities. The requirement for the monitoring program shall be noted on all applicable construction documents, including demolition plans, grading plans, etc. The Applicant/Owner or Grading Contractor shall notify the City of Oceanside Planning Division of the start and end of all ground disturbing activities.

MM-CUL-4 The Qualified Archaeologist and Luiseño Native American Monitor shall attend all applicable pre-construction meetings with the General Contractor and/or associated Subcontractors to present the archaeological monitoring program. The Qualified Archaeologist and Luiseño Native American Monitor shall be present on-site full-time during grubbing, grading and/or other ground altering activities, including the placement of imported fill materials or fill used from other areas of the project site, to identify any evidence of potential archaeological or tribal cultural resources. All fill materials shall be absent of any and all tribal cultural resources.

MM-CUL-5 In order for potentially significant archaeological artifact deposits and/or cultural resources to be readily detected during mitigation monitoring, a written "Controlled Grade Procedure" shall be prepared by a Qualified Archaeologist, in consultation with the Luiseño Native American monitor, other TCA Luiseño Tribes that have participated in the state-prescribed process for this project, and the Applicant/Owner, subject to the approval of City representatives. The Controlled Grade Procedure shall establish requirements for any ground disturbing work with machinery occurring in and around areas the Qualified Archaeologist and Luiseño Native American monitor determine to be sensitive through the cultural resource mitigation monitoring process. The Controlled Grade Procedure shall include, but not be limited to, appropriate operating pace, increments of removal, weight and other characteristics of the earth disturbing equipment. A copy of the Controlled Grade Procedure shall be included in the Grading Plan Submittals for the Grading Permit.

MM-CUL-6 The Qualified Archaeologist or the Luiseño Native American monitor may halt ground disturbing activities if unknown tribal cultural resources, archaeological artifact deposits or cultural features are discovered. Ground disturbing activities shall be directed away from these deposits to allow a determination of potential importance. Isolates and clearly non-significant deposits will be minimally documented in the field, and before grading proceeds these items shall be secured until they can be repatriated. If items cannot be securely stored on the project site, they may be stored in off-site facilities located in San Diego County. If the Qualified Archaeologist and Luiseño Native American monitor determine that the unearthed tribal cultural resource, artifact deposits or cultural features are considered potentially significant TCA Luiseño Tribes that have participated in the state-prescribed consultation process for this project shall be notified and consulted regarding the respectful and dignified treatment of those resources. The avoidance and protection of the significant tribal cultural resource and/or unique archaeological resource is the preferable mitigation. If, however, it is determined by the City that avoidance of the resource is infeasible, and it is determined that a data recovery plan is necessary by the City as the Lead Agency under CEQA, TCA Luiseño Tribes that have participated in the state-prescribed consultation process for this project shall be notified and consulted regarding the drafting and finalization of any such recovery plan. For significant tribal cultural resources, artifact deposits or cultural features that are part of a data recovery plan, an adequate artifact sample to address research avenues previously identified for sites in the area will be collected using professional archaeological collection methods. The data recovery plan shall also incorporate and reflect the tribal values of the TCA Luiseño Tribes that have participated in the state-prescribed consultation process for this project. If the Qualified Archaeologist collects such resources,

the Luiseño Native American monitor must be present during any testing or cataloging of those resources. Moreover, if the Qualified Archaeologist does not collect the tribal cultural resources that are unearthed during the ground disturbing activities, the Luiseño Native American monitor, may at their discretion, collect said resources and provide them to the appropriate TCA Luiseño Tribe, as determined through the appropriate process, for respectful and dignified treatment in accordance with the Tribe's cultural and spiritual traditions. Ground disturbing activities shall not resume until the Qualified Archaeologist, in consultation with the Luiseño Native American Monitor, deems the cultural resource or feature has been appropriately documented and/or protected.

MM-CUL-7 The landowner shall relinquish ownership of all tribal cultural resources unearthed during the cultural resource mitigation monitoring conducted during all ground disturbing activities, and from any previous archaeological studies or excavations on the project site to the appropriate TCA Luiseño Tribe, as determined through the appropriate process, for respectful and dignified treatment and disposition, including reburial at a protected location on-site, in accordance with the Tribe's cultural and spiritual traditions. All cultural materials that are associated with burial and/or funerary goods will be repatriated to the Most Likely Descendant as determined by the Native American Heritage Commission per California Public Resources Code Section 5097.98. No tribal cultural resources shall be subject to curation.

MM-CUL-8 Prior to the release of the grading bond, a monitoring report and/or evaluation report, if appropriate, which describes the results, analysis and conclusions of the archaeological monitoring program (e.g., data recovery plan) shall be submitted by the Qualified Archaeologist, along with the Luiseño Native American monitor's notes and comments, to the City of Oceanside Planning Division for approval.

MM-CUL-9 As specified by California Health and Safety Code Section 7050.5, if human remains are found on the project site during construction or during archaeological work, the person responsible for the excavation, or his or her authorized representative, shall immediately notify the San Diego County Office of the Medical Examiner by telephone. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the Medical Examiner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98. If such a discovery occurs, a temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected, and consultation and treatment could occur as prescribed by law. If suspected Native American remains are discovered, the remains shall be kept in-situ, or in a secure location in close proximity to where they were found, and the analysis of the remains shall only occur on-site in the presence of a Luiseño Native American monitor. By law, the Medical Examiner will determine within two working days of being notified if the remains are subject to his or her authority. If the Medical Examiner identifies the remains to be of Native American ancestry, he or she shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC shall make a determination as to the Most Likely Descendent.

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

Less-Than-Significant Impact. The records search and pedestrian survey did not indicate a likelihood of encountering human remains during project construction. In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are discovered, the County of San Diego coroner must be immediately notified, and no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains may occur until the county coroner has determined the appropriate treatment and disposition of the human remains. If the County coroner determines that the remains are, or are believed to be, Native American, they should follow all required protocols according to California Public Resources Code Section 5097.98. The project would be required to comply with California Health and Safety Code Section 7050.5 and would implement the City's standard mitigation measure MM-CUL-9, which would ensure that any potential impacts to human remains, including those interred outside of formal cemeteries, would be **less than significant**.

3.6 Energy

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Energy – Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

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

Less-Than-Significant Impact. Implementation of the project would result in energy use for construction including use of electricity, natural gas, and petroleum-based fuels. The electricity and natural gas used for construction of the proposed project would be temporary. The project involves the replacement of four existing drainage culverts located north of the San Luis Rey River, including three along North River Road and one along Sleeping Indian Road. The purpose of the project is to address the flooding issues caused by the existing culverts. The existing culverts are pipes under the road with unimproved inlets and outlets connected to dirt ditches. These inadequate structures fail to manage stormwater effectively, leading to frequent flooding and associated damage. The proposed project involves constructing new, larger culverts designed to enhance drainage capacity and mitigate flooding. By improving the flow of water through these upgraded culverts, the project aims to protect the roadway and surrounding areas from water damage, ensuring safer and more reliable infrastructure for the community. Operation of the project would not consume energy.

The project's impact on energy resources is discussed below for construction. Energy consumption (electricity, natural gas, and petroleum consumption) was estimated using CalEEMod data from the air quality and greenhouse gas (GHG) emissions assessment. For further detail on the assumptions and results of the energy analysis, please refer to Appendix A, Air Quality and Greenhouse Gas Emissions Output Files.

Construction

Electricity

Electricity consumed during project construction would vary throughout the construction period based on the construction activities being performed. Various construction activities would require electricity, including the conveyance of water that would be used for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power. Such electricity demand would be temporary, nominal, and would cease upon the completion of construction. San Diego Gas and Electric (SDG&E) is the electricity provider to the project sites and provided approximately 17,445 gigawatt-hours of electricity in 2020 (CEC 2016). Overall, construction activities associated with the project would require limited electricity consumption that would not be expected to have an adverse impact on available SDG&E electricity supplies and infrastructure. Therefore, the use of electricity during project construction would not be wasteful, inefficient, or unnecessary.

Natural Gas

Natural gas is not anticipated to be required during project construction. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the "petroleum" subsection. Any minor amounts of natural gas that may be consumed as a result of project construction would have a negligible contribution to the project's overall energy consumption.

Petroleum

Petroleum-based fuel usage represents most energy consumed during construction. Petroleum fuels would be used to power off-road construction vehicles and equipment on the project sites, construction worker travel to and from the project sites, as well as delivery and haul truck trips (e.g. hauling of material to project sites).

Fuel consumption from construction equipment and vehicles was estimated by converting the total carbon dioxide (CO_2) emissions from each construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. All off-road equipment and hauling and vendor trucks are assumed to be diesel, while worker vehicles are assumed to be gasoline. Construction is estimated based on the construction schedule assumed in Section 3.3, Air Quality. The conversion factor for gasoline is 8.78 kilograms per metric ton CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO_2 per gallon (The Climate Registry 2021). The estimated fuel usage from construction of the project is shown in Table 3.6-1.

Table 3.6-1 Estimated Construction Fuel Use

Construction Year	Fuel Use (Gallons)		
	Off-Road Equipment (Diesel)	On-Road Trucks (Diesel)	On-Road Workers (Gasoline)
Total (2025-2027)	4,458	679	565

Notes: Conversion factors from The Climate Registry 2021.
See Appendix A for complete results.

As shown in Table 3.6-1, the project is estimated to consume 5,702 gallons of petroleum (diesel and gasoline) during the construction phase. The project would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes, which would minimize fuel consumption. While construction activities would consume petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of construction. Further, the petroleum consumed related to project construction would be typical of construction projects of similar types and sizes and would not necessitate new petroleum resources beyond what are typically consumed in California. Therefore, because petroleum use during construction would be temporary and relatively minimal, and would not be wasteful or inefficient, impacts would be **less than significant**.

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

Less-Than-Significant Impact. The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Implementation of the project would result in energy use for construction only. Additionally, as discussed in Section 3.8, Greenhouse Gas Emissions, the project would not conflict with the City's Climate Action Plan (CAP), which was adopted in 2019 to achieve resource efficiency, including energy. The project would also not conflict with CARB's Scoping Plan for Achieving Carbon Neutrality, which identifies several strategies to reduce GHG emissions through energy efficiency (CARB 2022). As such, implementation of the proposed project would not conflict with applicable plans for energy efficiency, and the impacts during construction and operation would be **less than significant**.

3.7 Geology and Soils

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS – Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

a) Would the project 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? Refer to Division of Mines and Geology Special Publication 42.

Less-Than-Significant Impact. The project sites are located within a seismically active region of Southern California; however, the project sites are not located within an Alquist–Priolo Earthquake Fault Zone (DOC 2024c). The closest fault zone is the Wildomar Fault, located approximately 15 miles north of the project sites (DOC 2024c). The project would involve replacement of existing

culverts along North River Road and Sleeping Indian Road, which the construction or operation of would not directly or indirectly increase or exacerbate the potential for fault rupture. The project would not contain habitable structures or other structural development intended for human occupancy. Compliance with applicable seismic design requirements would reduce the potential risk to both people and structures with respect to strong seismic ground shaking. Therefore, the project would not directly or indirectly cause potential adverse effects involving rupture of a known earthquake fault, and impacts would be **less than significant**.

ii) Strong seismic ground shaking?

Less-Than-Significant Impact. As stated in Section 3.7(a), the project sites are located within a seismically active region of Southern California; however, the project sites are not located within an Alquist–Priolo Earthquake Fault Zone (DOC 2024c). The project would involve replacement of existing culverts along North River Road and Sleeping Indian Road, which the construction or operation of would not directly or indirectly exacerbate the potential for strong seismic ground shaking. The project would contain no habitable structures or other structural development intended for human occupancy. Compliance with applicable seismic design requirements would reduce the potential risk to both people and structures with respect to strong seismic ground shaking. Therefore, the project would not directly or indirectly cause potentially substantial adverse effects involving strong seismic ground shaking, and impacts would be **less than significant**.

iii) Seismic-related ground failure, including liquefaction?

Less-Than-Significant Impact. Ground failure is a secondary effect of ground shaking and can include landslides, liquefaction, lurching, and differential settlement. Liquefaction is the loss of soil strength due to seismic forces generating various types of ground failure. Liquefaction occurs when saturated and poorly consolidated granular material is shaken during an earthquake and is transformed into a fluid-like state.

According to maps obtained through the California Department of Conservation and California Geological Survey, the project sites are not located within a designated liquefaction zone (DOC 2024c). Additionally, the project would not include habitable structures or other structural development intended for human occupancy. Therefore, the project would not directly or indirectly cause potential adverse effects involving liquefaction, and impacts would be **less than significant**.

iv) Landslides?

No Impact. Landslides typically occur on moderate to steep slopes that are affected by such physical factors as slope height, slope steepness, shear strength, and orientation of weak layers in the underlying geologic units. The project sites and surroundings are generally flat, with soils stabilized by development and landscaping. Therefore, the project would not result in the creation of moderate to steep slopes that may become susceptible to landslides and **no impact** would occur.

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

Less-Than-Significant Impact. The project would consist of the replacement of four existing culverts with four new larger culverts, which would allow for better water flow and reduced erosion at the project sites. Demolition of the existing culverts would require trenching and excavation of earth material, existing piping, and the existing foundation, and would require use of an excavator and/or backhoe. During these construction activities, soil disturbance could potentially result in erosion and loss of topsoil; however, the project would implement construction BMPs adopted by the Storm Water Quality Management Plan (SWQMP) in accordance with the San Diego County RWQCB. Implementation of construction BMPs would result in a **less-than-significant impact** to substantial soil erosion or the loss of topsoil.

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

Less-Than-Significant Impact. See Sections 3.7(a)(iii) and 3.7(a)(iv.). As discussed in Section 3.7(a)(iv), the project sites are not located in an area susceptible to landslides. Further, although located in a seismically active region of Southern California, activities proposed at the project sites involve replacement of existing drainage culverts. Therefore, due to limited construction at the site, the project would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse and impacts would be **less than significant**.

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

Less-Than-Significant Impact. Expansive soils are characterized by shrink/swell properties that over time can lead to cyclical volumetric changes that can damage structures such as building foundations and roadways. The project would not involve construction of any habitable structures or other built elements that would be considered susceptible to adverse effects from expansive soils. Therefore, the potential impact related to expansive soils would be **less than significant**.

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

No Impact. The project would not result in the construction of septic tanks or alternative wastewater disposal systems. No impacts would occur.

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

Less-Than-Significant Impact. Ground-disturbing activities associated with the project would include grading and excavations at less than depths of 10 feet. According to the City's Onward Oceanside Draft EIR, the project sites have no paleontological sensitivity and low paleontological sensitivity (City of Oceanside 2024c). Some areas at the project sites are classified as having low paleontological sensitivity at excavation depths between 0 and 10 feet, but high sensitivity when the depth of excavation exceeds 10 feet. Project excavation at each of the sites would not exceed 5 to 10 feet; therefore, the project sites in these areas

would have low sensitivity. Given the limited depth of excavation and the low sensitivity of the sites at these depths, the proposed project would not be expected to result in significant impacts to paleontological resources. Impacts would be **less than significant**.

3.8 Greenhouse Gas Emissions

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

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

Less-Than-Significant Impact. GHGs are gases that absorb infrared radiation (i.e., trap heat) in the Earth's atmosphere. The trapping and buildup of heat in the atmosphere near the Earth's surface (the troposphere), is referred to as the "greenhouse effect," and is a natural process that contributes to the regulation of the Earth's temperature, creating a livable environment on Earth. The Earth's temperature depends on the balance between energy entering and leaving the planet's system, and many factors (natural and human) can cause changes in Earth's energy balance. Human activities that generate and emit GHGs into the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise. This rise in temperature has led to large-scale changes to the Earth's system (e.g., temperature, precipitation, wind patterns), which are collectively referred to as climate change. Global climate change is a cumulative impact; a project contributes to this impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. Thus, GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008).

As defined in California Health and Safety Code Section 38505(g) for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride (see also CEQA

Guidelines Section 15364.5). The primary GHGs that would be emitted by project-related construction include CO_2, CH_4, and N_2O.[2] The project would not result in operational GHG emissions.

The Intergovernmental Panel on Climate Change developed the global warming potential (GWP) concept to compare each GHG's ability to trap heat in the atmosphere relative to another gas. The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e). Consistent with CalEEMod, this GHG emissions analysis assumed the GWP for CH_4 is 25 (i.e., emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the Intergovernmental Panel on Climate Change's Fourth Assessment Report (IPCC 2007).

As the lead agency, the City has the discretion to choose the significance threshold for discretionary projects. The analysis includes a consistency assessment with the with the City's CAP adopted in May 2019 and the May 2023 Policy Directive regarding CEQA GHG Impact Analysis. The City's 2023 Policy Directive indicates that projects that exceed 900 MT CO_2e (the generally accepted "bright-line" threshold) must demonstrate that associated GHG emissions fall below the CAP-aligned thresholds of significance, as described below:

- Projects that will be implemented prior to 2020 must show that GHG emissions related to both construction and operation will not exceed 4.0 MT CO_2e/service population per year.
- Projects that will be implemented after 2020 and prior to end of 2025 must show that GHG emissions related to both construction and operations will not exceed 3.5 MT CO_2e/service population per year.
- Projects that will be implemented after 2025 must show that GHG emissions related to both construction and operations will not exceed 3.0 MT CO_2e/service population per year.

The project's GHG significance may also be assessed utilizing the CAP Consistency Checklist to evaluate the significance of the project's GHG emissions. The Checklist contains GHG reduction measures applicable to development projects that are required to be implemented on a project-by-project basis to ensure that the specific emission targets identified in the CAP are achieved. New development projects that do not meet the 900 MT CO_2e bright-line threshold or the above GHG efficiency thresholds will need to incorporate all applicable CAP measures to demonstrate consistency with the CAP.

The analysis for compliance with regulatory programs only applies to the individual area addressed by the regulatory program. If the project is determined to have GHG emissions less than 900 MT CO_2e per year, then the project's cumulative contribution of GHG emissions would be considered less than significant. Conversely, if the project is determined to exceed the 900 MT CO_2e per year threshold, then the project would be compared to an efficiency metric of 3.0 MT CO_2e per service population per year, to evaluate the potential for the project to result in a significant GHG emissions impact.

[2] Emissions of hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride are generally associated with industrial activities, including the manufacturing of electrical components and heavy-duty air-conditioning units and the insulation of electrical transmission equipment (substations, power lines, and switchgears.). Therefore, emissions of these GHGs were not evaluated or estimated in this analysis because the project would not include these activities or components and would not generate hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, or nitrogen trifluoride in measurable quantities.

Construction Emissions

Construction of the project would result in GHG emissions, which are primarily associated with the use of off-road construction equipment, on-road vendor trucks, and worker vehicles.

CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 3.3, Air Quality. Construction of the project was assumed to commence in July 2026 with completion in November 2027. Table 3.8-1 presents construction emissions for the project.

Table 3.8-1. Estimated Annual Construction Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	R	CO_2e
	Metric Tons				
2026	30.2	<0.005	<0.005	0.01	30.5
2027	26.8	<0.005	<0.005	0.01	27.0
				Total	**57.5**
				20-Year Amortized Construction Emissions (MT CO_2e per year)	**2.88**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; R = refrigerants; CO_2e = carbon dioxide equivalent; MT = metric ton. See Appendix A for complete results.

As shown in Table 3.8-1, the estimated total GHG emissions during construction would be approximately 58 MT CO_2e. Estimated project-generated construction emissions amortized over 20 years would be approximately 3 MT CO_2e per year. As with project-generated construction criteria air pollutant emissions, GHG emissions generated during construction of the project would be short term in nature, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Because there is no separate GHG threshold for construction, the evaluation of significance is discussed in the operational emissions analysis in the following text.

Operational Emissions

The project involves the replacement of four existing drainage culverts located north of the San Luis Rey River, including three along North River Road and one along Sleeping Indian Road. The purpose of the project is to address the flooding issues caused by the existing culverts. The existing culverts are pipes under the road with unimproved inlets and outlets connected to dirt ditches. These inadequate structures fail to manage stormwater effectively, leading to frequent flooding and associated damage. The proposed project involves constructing new, larger culverts designed to enhance drainage capacity and mitigate flooding. By improving the flow of water through these upgraded culverts, the project aims to protect the roadway and surrounding areas from water damage, ensuring safer and more reliable infrastructure for the community. Operation of the project would not generate GHG emissions.

To determine significance, amortized construction emissions are added to zero operational emissions, resulting in 3 MT CO_2e per year. Therefore, the project's estimated GHG emissions would not exceed the 900 MT CO_2e screening threshold and the project's GHG emissions would be **less than significant**.

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

Less-Than-Significant Impact. The project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions. Applicable plans for the proposed project sites include the City General Plan, the City CAP, the SANDAG Regional Plan, and the CARB 2022 Scoping Plan. Each of these plans is described below along with an analysis of the proposed project's potential to conflict with the related GHG emission reduction goals.

Consistency Analysis with City of Oceanside General Plan

Because the project involves the replacement of four existing drainage culverts and does not impact operational traffic or area growth, the project also would not conflict with the goals set forth in the City's General Plan Environmental Resource Management Element, Land Use Element, and Circulation Element that are designed to reduce the emissions of GHGs, reduce energy use in buildings and infrastructure, and promote the use of renewable energy sources, conservation, and other methods of efficiency.

Consistency with the City of Oceanside's Climate Action Plan

The City prepared a GHG emissions inventory and a CAP, both of which inform the E-CAP (City of Oceanside 2019). The City's Final CAP was adopted on May 8, 2019. The CAP demonstrates that, with implementation of applicable General Plan objectives and policies, coupled with state and federal actions and execution of CAP measures and actions, the City will reduce GHG emissions in alignment with state goals established by Senate Bill (SB) 32 and maintain a trajectory to meet its proportional share of the 2050 state target identified in Executive Order (EO) S-3-05. Because the project would result in total GHG emissions that would not exceed the bright-line threshold of significance for GHG emissions impacts, 900 MT annually, the project would not conflict with the City's CAP.

Consistency with the SANDAG Regional Transportation Plan

At the regional level, the SANDAG's Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) has been adopted for the purpose of reducing GHG emissions attributable to passenger vehicles in the San Diego region (SANDAG 2021). The RTP/SCS is not directly applicable to the project because the underlying purpose of the RTP/SCS is to provide direction and guidance on future regional growth (i.e., the location of new residential and nonresidential land uses) and transportation patterns throughout San Diego County, as stipulated under SB 375. CARB has recognized that the approved RTP/SCS is consistent with SB 375. The SANDAG Regional Plan is generally consistent with the local government plans. Because the project involves the replacement of four existing drainage culverts and does not impact operational traffic or regional growth, it would not result in growth that would conflict with the SANDAG RTP/SCS. Based on the preceding, the project would not conflict with the SANDAG RTP/SCS.

Consistency with Senate Bill 32, Assembly Bill 1279, Executive Order S-3-05, and Assembly Bill 1279

EO S-3-05 identified the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050. SB 32 establishes a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum

technologically feasible and cost-effective GHG emissions reductions, must ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by December 31, 2030. Assembly Bill (AB) 1279 establishes a policy for the state to achieve net-zero GHG emissions no later than 2045, and for statewide anthropogenic GHG emissions to be reduced to at least 85% below 1990 levels by 2045.

Each Scoping Plan builds upon the successful framework established by the initial Scoping Plan and subsequent updates, while also identifying new, technologically feasible, and cost-effective strategies to ensure that California meets increasingly stringent GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities (CARB 2022). The Scoping Plan updates have continued to express optimism in meeting future year targets of 2050 and 2030, as evaluated in the 2014 and 2017 Scoping Plans (respectively), and most recently, the 2045 goal addressed in the 2022 Scoping Plan under EO B-55-18, which AB 1279 codified and expanded on.

Although there are no established protocols or thresholds of significance for that future year analysis, CARB forecasted in the 2014 Scoping Plan that compliance with the current Scoping Plan would put the state on a trajectory of meeting the long-term 2050 GHG goals, although the specific path to compliance was unknown at the time (CARB 2014). The 2017 Scoping Plan outlined a strategy to achieve the 2030 GHG reduction target. The proposed scenario in the 2022 Scoping Plan lays out a path not just to carbon neutrality by 2045, but also to the 2030 GHG emissions reduction target (CARB 2022). The modeling indicates that, if the plan described in the proposed scenario is fully implemented, and done so on schedule, the state is on track to reduce its emissions to 260 MMT CO_2e by 2030 (CARB 2022).

The 2017 Scoping Plan included measures to promote renewable energy and energy efficiency (including the mandates of SB 350), increase stringency of the low-carbon fuel standard, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increase stringency of SB 375 targets. The 2022 Scoping Plan builds upon and accelerates programs currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; and displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines) (CARB 2022). Many of the measures and programs included in the Scoping Plan would result in the reduction of project-related GHG emissions with no action required at the project-level, including GHG emission reductions through increased energy efficiency and renewable energy production (SB 350), reduction in carbon intensity of transportation fuels (Low-Carbon Fuel Standard), and the accelerated efficiency and electrification of the statewide vehicle fleet (Mobile Source Strategy). Overall, the project as a culvert replacement project would not conflict with the Scoping Plan to the extent applicable and required by law and would not conflict with CARB's 2017 or 2022 Scoping Plan updates or with the state's ability to achieve the 2030 and 2045 GHG reduction and carbon neutrality goals.

The project would not interfere with implementation of any of the above-described GHG reduction goals because the project would not exceed the 900 MT CO_2e threshold of significance for GHG emissions impacts. Therefore, impacts related to GHG emissions would be **less than significant**.

3.9 Hazards and Hazardous Materials

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

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

Less-Than-Significant Impact. Construction of the project would not require extensive or ongoing use of acutely hazardous materials or substances. Project activities would involve limited transport, storage, use, and disposal of hazardous materials, including fueling and servicing construction equipment on site, and

transporting fuels, lubricating fluids, and solvents. These types of materials, however, are not acutely hazardous, and the use, storage, handling, and disposal of these materials are regulated by the California Department of Toxic Substances Control (DTSC), U.S. Environmental Protection Agency, California Environmental Protection Agency, and Occupational Safety and Health Administration.

Once construction is complete, no hazardous materials would be located within the project sites. Should maintenance of the culverts require the use of hazardous materials or heavy equipment that contains petroleum fuels, oils, or lubricants, similar precautions would take place as during construction. Therefore, the project would not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials, and impacts would be **less than significant**.

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

Less-Than-Significant Impact. As discussed in Section 3.9(a), hazardous materials that would be used for the culvert replacements are not considered acutely hazardous and are used routinely for construction and renovation projects. Further, these materials would be transported, stored, and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. Construction staff would be trained in spill and release response, as applicable. For these reasons, construction of the project is not anticipated to create a significant hazard to the public or environment due to upset and accident conditions. Should maintenance of the culverts require the use of hazardous materials or heavy equipment that contains petroleum fuels, oils, or lubricants, similar precautions would take place as during construction. Potential quantities of hazardous materials would be relatively small, and therefore the risk of release would be low. Therefore, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions, and impacts would be **less than significant**.

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

Less-Than-Significant Impact. Mission Vista High School is approximately 0.2 miles south of Culverts 2–4, located along North River Road. However, as detailed in Sections 3.9(a), 3.9(b), and 3.9(d), impacts related to the handling of hazardous materials, substances or wastes would be less than significant. Construction and operation of the project would involve relatively small amounts of hazardous substances. These materials are used routinely throughout urban environments for construction projects and would not pose a significant risk to the public or environment. Additionally, these materials would be transported and handled in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. Therefore, impacts to schools within 0.25 miles of the project sites would also be **less than significant**.

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

No Impact. DTSC maintains a Hazardous Waste and Substances Sites List (Cortese List). Government Code Section 65962.5(a) requires the list be updated at least annually to reflect new information regarding previously listed sites or new sites requiring response action (CalEPA 2025). The DTSC is responsible for a portion of the information contained in the Cortese List. According to the DTSC's EnviroStor database, no sites or facilities are located within or adjacent to the culvert locations. The nearest identified site is HI Hope Ranch High School, a School Investigation with no further action needed, located approximately 0.95 miles south of Culvert 2 (DTSC 2025). Other state and local government agencies are required to provide additional hazardous materials release information for the Cortese List. The State Water Resources Control Board's GeoTracker database identifies leaking underground storage tanks, waste discharge sites, oil and gas sites, and other waste or cleanup sites. A review of GeoTracker did not identify any sites or facilities within or adjacent to the culvert locations. The nearest identified site with open-site assessment status is the San Luis Rey Restoration/Mitigation Bank (ID No. T10000005268), a Cleanup Program Site, located approximately 0.30 miles southeast of the Culvert 2 (SWRCB 2025). These hazardous materials sites are located at adequate distances from the project sites such that they would be of no concern to present a worker hazard for construction crews. Therefore, **no impact** would occur.

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

No Impact. The project sites are not located within 2 miles of a public airport or within an airport land use plan (City of Oceanside 2010b, 2010c). Oceanside Municipal Airport is approximately 5 miles west of the project sites, and McClellan–Palomar Airport is approximately 9 miles southwest of the project sites. Therefore, **no impact** would occur.

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

Less-Than-Significant Impact. The project sites are located within the City of Oceanside, in north San Diego County. The City has adopted an Emergency Operations Plan that identifies evacuation routes, emergency facilities, and City personnel and equipment available to effectively deal with emergency situations (City of Oceanside 2016). Implementation of the project would require temporary partial road closures on North River Road and Sleeping Indian Road during construction. To ensure emergency access on North River Road and Sleeping Indian Road during construction activities, a temporary traffic management plan would be prepared that would include identifying an alternate access route. The traffic management plan would be prepared by the City. Additionally, equipment and materials would be stored at a staging area on site and would not impact daily traffic such that it could impede evacuation efforts of local communities. Therefore, there would be no interference or impairment of any emergency response or emergency evacuation plans, and impacts would be **less than significant**.

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

Less-Than-Significant Impact. The project sites are not located within a Very High Fire Hazard Severity Zone (CAL FIRE 2024). The project would not substantially change any existing conditions at the project sites that could exacerbate existing fire risk or expose people or structures to significant risk related to wildland fires. Thus, culvert replacement would not create a substantial risk of fire ignition. Therefore, impacts would be **less than significant**.

3.10 Hydrology and Water Quality

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

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

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

Less-Than-Significant Impact. The project is located adjacent to the San Luis Rey River. Construction of the project would involve ground-disturbing activities for grading that could result in sediment discharge in stormwater runoff. Additionally, construction would involve the use of oil, lubricants, and other chemicals that could be discharged from leaks or accidental spills. These potential sediment and chemical discharges during construction would have the potential to impact water quality in receiving water bodies. However, the project would be required to implement a SWQMP in concurrence with the RWQCB. Implementation of the SWQMP would include construction BMPs to ensure that water quality standards are met and that runoff from the construction work areas does not cause degradation of water quality in receiving water bodies. Through the incorporation of BMPs through implementation of SWQMP requirements, impacts associated with water quality standards during construction would be **less than significant**.

Operation of the project is anticipated to reduce required maintenance on the culvert because the improved design would allow for better water flow and reduced erosion, which would mitigate flooding that occurs under existing conditions. Therefore, a **less-than-significant impact** would occur during operations.

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

Less-Than-Significant Impact. The project sites are located adjacent to the San Luis Rey River watershed. The project would not entail temporary or permanent use of groundwater, and, thus, would not deplete groundwater within the project vicinity. The replacement of the culverts would improve drainage conditions and would not impede groundwater recharge. In addition, the project would not introduce occupants to the site, and no water supplies would be needed. Therefore, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin, and a **less-than-significant impact** would occur.

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

i) Result in substantial erosion or siltation on- or off-site?

Less-Than-Significant Impact. The project would consist of the replacement of four existing culverts with four new larger culverts, which would allow for better water flow and reduced erosion

at the project sites. Construction activities at the project sites would result in ground alteration that could create the potential for erosion to occur. As stated above in Impact 3.10 (b), the project would be required to implement a SWQMP, which would include construction BMPs to minimize potential erosion. Additionally,, construction activities would be temporary, and the project sites would be restored to existing conditions upon completion. Implementation of the project would allow for better water flow at the existing culverts, so drainage conditions would improve and the potential for erosion would be reduced. Therefore, a **less-than-significant impact** would occur.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less-Than-Significant Impact. The project would result in minimal ground disturbance during construction and replacement of the existing culverts. The project would not introduce additional impervious ground surface that could result in an increased rate or amount of runoff. Upon completion, the project would ensure improved drainage flows which would protect against flooding. Therefore, the project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site and a **less-than-significant impact** would occur.

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?

No Impact. The project would consist of the replacement of four existing culverts with four new larger culverts, which would allow for better water flow and reduced erosion at the project sites. The project does not include activities that would create or contribute runoff water or provide substantial additional sources of polluted runoff. Once completed, the project would not exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff and **no impact** would occur.

iv) Impede or redirect flood flows?

No Impact. The project would consist of the replacement of four existing culverts with four new larger culverts, which would allow for better water flow and reduced erosion at the project sites. Therefore, the project is anticipated to improve flood flows upon completion and would not impede or redirect flood flows. **No impact** would occur.

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

No Impact. According to the Flood Insurance Rate Maps produced by the Federal Emergency Management Agency (FEMA), Culvert 1 is located within a FEMA flood zone X, which indicates a low-risk area, and Culverts 2–4 are located within a FEMA flood zone AE, indicating a high-risk Special Flood Hazard Area (FEMA 2008). The project would consist of the replacement of four existing culverts with four new larger culverts, which would allow for better water flow and reduced erosion at the project sites. The project does not consist of development that would risk the release of pollutants due to inundation. Additionally, the project sites are located outside of the tsunami hazard area and seiches do not pose a hazard to the project sites (DOC 2025).

Therefore, the project would not risk release of pollutants due to project inundation, and **no impact** would occur.

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

Less-Than-Significant Impact. The project would consist of the replacement of four existing culverts with four new larger culverts, which would allow for better water flow and reduced erosion at the project sites. The replacement of the existing drainage culverts would not impede groundwater recharge. In addition, the project would not introduce occupants to the sites, so no water supplies would be needed. Thus, the project would not result in the use of groundwater supplies that would result in conflicts with a sustainable groundwater management plan. In addition, the project would comply with regional and local regulations related to water quality and would not obstruct existing water quality control plans. Impacts would be **less than significant**.

3.11 Land Use and Planning

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

a) Would the project physically divide an established community?

No Impact. The project sites are located along portions of Sleeping Indian Road and North River Road and are not within an established community. The project would involve replacements of existing drainage culverts and does not include components that would serve as a physical division of an established community. **No impact** would occur.

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

No Impact. The project sites surrounding land are designated in the City's General Plan as Agriculture and zoned as Agriculture (City of Oceanside 2024a). The project would involve replacing existing drainage culverts and would not result in a change to land uses. Therefore, the project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect and **no impact** would occur.

3.12 Mineral Resources

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

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

No Impact. According to the City's general plan, two major areas of mineral deposits lie within the City. The San Luis Rey River Basin contains non-construction-quality sand and construction-quality sand suitable for concrete and plaster. The second major area is a mineral deposit north of Oceanside Boulevard, consisting primarily of silica sand used for glass manufacturing. While the San Luis Rey River Basin does contain a large amount of material suitable for extraction, most of the sand deposits are within the urbanized City and are classified as unavailable (City of Oceanside 2002b).

The project's short-term construction activities and permanent operation would not result in the loss of availability of the known mineral resources within the San Luis Rey River Basin. Therefore, the project would not involve activities that would impact areas of known mineral resources or mineral recovery sites, and **no impact** would occur.

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

No Impact. As stated in Section 3.12(a) the project would involve short-term and temporary construction activities and would not result in a loss of availability of locally important mineral resources. **No impact** would occur.

3.13 Noise

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

Environmental Setting

Noise impacts from the proposed construction activities would be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities.

The project sites are located along portions of North River Road and Sleeping Indian Road, which are surrounded by Agricultural uses to the north, east, and west, and open space and residential uses to the south. The closest sensitive receptors near the project sites are residential communities located approximately 0.2 miles south of Culverts 2–4, and Mission Vista High School, which is approximately 0.2 miles south of Culverts 2–4. The residential communities and Mission Vista High School are separated from North River Road by open space and the San Luis Rey River.

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

Less-Than-Significant Impact. The project would consist of the replacement of four existing culverts with four new larger culverts, which would generate a temporary increase in noise during demolition, grading, construction, and paving. Project construction activities would comply with the City's Noise Control Ordinance (Chapter 38 of the City's Municipal Code) and the City's General Plan Noise Element, which limits construction activities to daytime hours (7:00 a.m. to 6:00 p.m. Monday through Friday, or from 8:30 a.m.

to 4:30 p.m. on Saturday). Once construction is completed, the project sites would continue to operate as drainage culverts. The continued operation of drainage culverts would not result in a permanent increase in ambient noise levels. Therefore, a **less-than-significant impact** would occur.

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

Less-Than-Significant Impact. Construction activities required for the project are not anticipated to generate excessive groundborne vibrations or noise levels. There are no residences or other vibration-sensitive uses within 50 feet of the project's construction sites. Therefore, construction-related vibration impacts would be **less than significant**.

The project's operations would not include components that would have the potential to generate vibration perceptible to adjacent properties; therefore, **no operational vibration impacts** would occur.

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

No Impact. The project sites are not located within 2 miles of a public airport or within an airport land use plan (City of Oceanside 2010b, 2010c). Oceanside Municipal Airport is approximately 5 miles west of the project sites, and McClellan–Palomar Airport is approximately 9 miles southwest of the project sites. Therefore, the project would not expose people residing or working in the project area to excessive noise levels, and no impact would occur.

3.14 Population and Housing

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING – Would the project:				
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?	☐	☐	☐	☒

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

No Impact. Construction of the project would result in a small number of temporary construction jobs, which would be filled by the regional job market. The project would involve replacing existing drainage culverts and would not result in the need for additional employes. Therefore, the project would not result in direct population growth through introduction of new jobs, homes, or businesses. The project would not increase or expand water utilities in a way that could indirectly induce population growth. The project would not result in the extension of roads or other infrastructure, which could indirectly induce population growth. Therefore, **no impact** would occur regarding unplanned population growth.

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

No Impact. The project would involve replacing four existing drainage culverts along North River Road and Sleeping Indian Road. The project would not result in displacement of existing housing and would not result in impacts to housing or necessitate the construction of replacement housing. Therefore, the project would not displace any people or result in the need for replacement housing, and **no impact** would occur.

3.15 Public Services

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

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

Fire protection? Police protection? Schools? Parks? Other public facilities?

No Impact. As discussed in Section 3.14, Population and Housing, the project would not induce substantial unplanned population growth in the area. As such, construction, operation, and maintenance of the project would not require new or physically altered facilities associated with fire protection, police protection, schools, parks, or other public facilities. Therefore, **no impacts** would occur.

3.16 Recreation

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

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

No Impact. The project sites are located along portions of North River Road and Sleeping Indian Road and involve replacing the existing draining culverts. The project would not result in an increased use of existing neighborhood and regional parks or other recreational facilities. **No impact** would occur.

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

No Impact. The project sites would not include recreational facilities, nor would the project require the construction or expansion of recreational facilities. **No impact** would occur.

3.17 Transportation

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

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

Less-Than-Significant Impact. Construction of the project would occur within the public right-of-way along portions of North River Road and Sleeping Indian Road, which would result in temporary, short-term increases in traffic during construction activities. The City's General Plan Circulation Element provides goals, objectives, and policies to maintain and improve the City's transportation system and enhance travel choices for current and future residents, visitors, and workers (City of Oceanside 2012). According to the Circulation Element, North River Road and Sleeping Indian Road are Collector Roads, and public transportation routes are not supported on North River Road or Sleeping Indian Road (City of Oceanside 2012). Additionally, North River Road is classified as a Class 3 Bike Route, meaning that bicycles share the right-of-way with on-road vehicles (City of Oceanside 2012).

The project would prepare a traffic control plan to be approved by the City. Following construction activities, the project would operate the same as existing conditions. Therefore, the project would not conflict with applicable programs, plans, ordinances, or policies addressing the circulation system and a **less-than-significant impact** would occur.

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

Less-Than-Significant Impact. With the implementation of SB 743, the California Governor's Office of Planning and Research has issued guidance that replaces level of service with a metric based on vehicle miles traveled (VMT) to measure transportation impacts. Projects that reduce or result in no change to VMT are assumed to cause a less-than-significant transportation impact.

The project would consist of the replacement of four existing culverts with four new larger culverts and replacement of the road surface once the culvert construction is complete. The project would not result in a permanent change in the transportation network, because the proposed project is not associated with uses that would result in increased vehicle trips; and, therefore would not result in a change to VMT.

The California Governor's Office of Planning and Research guidance does not address the potential for VMT increases during temporary construction phases. Construction of the project would result in a temporary increase in traffic as a result of construction-related workforce traffic, but the project would not generate a significant number of daily or peak-hour trips. Further, once construction is completed, construction-related traffic would cease and VMT levels would return to pre-project conditions. Therefore, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b) and impacts would be **less than significant**.

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

No Impact. Construction activities would be limited to small work areas along North River Road and Sleeping Indian Road. Temporary road closures would be required at the project sites during construction; however, a traffic control plan would be implemented as part of the project to ensure vehicle right-of-way access and safety. The project would not involve the construction of any new permanent roads or modification to existing roads; therefore, it would not create any hazards due to a geometric design feature, nor would it result in incompatible uses. **No impact** would occur.

d) Would the project result in inadequate emergency access?

Less-Than-Significant Impact. Construction of the project would occur within small work areas in the public right-of-way along portions of North River Road and Sleeping Indian Road. Work would require temporary lane closures and the presence of heavy equipment operating in and staged next to the roadways during project construction. To ensure adequate emergency access, a temporary traffic control plan would be developed and implemented. Therefore, there would be no interference or impairment of emergency access, and impacts would be **less than significant**.

3.18 Tribal Cultural Resources

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

The evaluation of potential impacts on tribal cultural resources (TCRs) is based on the findings resulting from tribal consultation conducted by the City, as the lead agency, as well as the findings of Section 3.5, Cultural Resources, in this MND. Background research conducted to inform this analysis includes a California Historical Resources Information System database records search conducted at the South Coastal Information Center, a search of the NAHC SLF, a review of historical topographic maps and aerial photographs, a cultural resources intensive pedestrian survey of the project sites, and the results of formal tribal consultation completed by the City pursuant to California AB 52.

Native American Heritage Commission Sacred Lands File Search

Dudek requested an NAHC search of the SLF for the project sites and a 1-mile radius on December 6, 2024. The SLF consists of a database of known Native American resources. These resources may not be included in the South Coastal Information Center database. NAHC replied via email on December 26, 2024, stating that the SLF search was completed with negative results. Negative results indicate there is not a presence of Native American cultural resources within 1 mile of the project site and not necessarily directly within the project site. Additionally, NAHC provided a list of 34 California Native American tribal representatives that should be contacted for more information on potential tribal sensitivities regarding the currently proposed project.

Assembly Bill 52 Consultation Outreach

AB 52 of 2014 amended California Public Resources Code Section 5097.94 and added California Public Resources Code Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 established that TCRs must be considered under CEQA and also provided for additional Native American consultation requirements for the lead agency. California Public Resources Code Section 21074 describes a TCR as a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American tribe. A TCR fulfills one of the following requirements:

- Is on the California Register of Historical Resources or a local historic register
- Is eligible for the California Register of Historical Resources or a local historic register
- Is 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 California Public Resources Code Section 5024.1

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project site, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, MND, or EIR by contacting those tribal groups who have previously provided formal written request for notification of projects under the agency's jurisdiction.

Section 1(b)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on TCRs should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the California Public Resources Code, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to TCRs, the consultation shall include those topics (California Public Resources Code Section 21080.3.2[a]). Finally, the environmental document on which the tribal consultation is focused, as well as the mitigation monitoring and reporting program (where applicable), developed in consideration of information provided by tribes during the formal consultation process, shall include any mitigation measures that are adopted (California Public Resources Code Section 21082.3[a]).

The project is subject to compliance with AB 52 (California Public Resources Code Section 21074), which requires consideration of impacts on TCRs as part of the CEQA process and that the lead agency notify California Native American tribal representatives (that have requested notification) who are traditionally or culturally affiliated with the geographic area of the proposed project. Four California Native American tribal representatives identified on the City's AB 52 contact list were sent letters from the City on June 30, 2025. The notification letters contained a project description, a project location map, an outline of AB 52 timing, an invitation to consult, and contact information for the appropriate lead agency representative. AB 52 allows tribes 30 days after receiving notification to request consultation. Follow-up emails were sent to the four California Native American tribal representatives on August 28, 2025 for responses. If a response is not received within the allotted 30 days, it can be assumed that consultation is declined. Table 3.18-1 summarizes the AB 52 consultation efforts for the project thus far.

Table 3.18-1. Assembly Bill 52 Native American Tribal Outreach Results

Native American Tribal Representatives	Consultation Record
John Pepper (Deputy Tribal Historic Preservation Officer) Shasta Gaughen (Tribal Historic Preservation Officer), Pala Band of Mission Indians	A meeting was held on July 24, 2025. A request was made to review the Cultural Resources Report and to follow up with mitigation measures. However, no responses were received to date after following up.
Temet Aguilar, Chairperson, Pauma Band of Luiseño Indians	No response received to date.
Cheryl Madrigal (Cultural Resources Manager/Tribal Historic Preservation Officer); Shuuluk Linton (Tribal Historic Preservation Coordinator); Jennifer Pahua (Cultural Resources Department Coordinator), Rincon Band of Luiseño Indians	A letter was sent to the City on July 11, 2025 regarding the Project and requesting materials. The City provided the requested materials on July 14, 2025. However, no responses were received to date after following up to schedule a meeting.
Carmen Mojado, Cultural Resource Management Specialist and Project Director, San Luis Rey Band of Mission Indians	A meeting was requested on August 29, 2025. However, no responses were received to date after following up to schedule a meeting.

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

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

No Impact. As discussed in Section 3.5, Cultural Resources, no previously recorded archaeological resources of Native American origin or tribal cultural resources (TCRs) listed in the California Register of Historical Resources or a local register were identified within the Project sites as a result of the South Coastal Information Center records, and the NAHC SLF results were negative. Additionally, the City notified California Native American Tribal representatives who are traditionally or culturally affiliated with the geographic area of the Project pursuant to AB 52. No TCRs were identified as a result of information provided from consulting tribes. Therefore, the Project would not adversely affect TCRs that are listed or eligible for listing in the state or local register, and **no impact** would occur.

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

Less-Than-Significant Impact. The project is subject to compliance with AB 52 (PRC 21074), which requires consideration of impacts to TCRs as part of the CEQA process and requires lead agencies to provide notification of proposed projects to California Native American Tribal representatives that have requested such notifications. While the City has not identified any TCRs within the project sites that would warrant discretionary designation of a resource as a TCR through tribal consultation under AB 52, the City

understands that there is a potential to encounter intact cultural deposits to exist within native soils. Moreover, given that the project sites are within proximity to the San Luis Rey River, there is potential for the project sites to be buried in alluvial and flood deposits. Although no TCRs have been identified within the Project sites, there is the potential for identifying previously unknown TCRs during proposed Project construction. If Project construction activities were to affect previously unknown TCRs in a manner that would damage their cultural value, a significant impact could result. To ensure project development would not result in potential impacts to cultural resources or TCRs, the project would implement the City's standard mitigation measures **MM-CUL-1** through **MM-CUL-9**, outlined in the Cultural Resources section above. Implementation of **MM-CUL-1** through **MM-CUL-9** would ensure that potential impacts to TCRs would remain less than significant.

3.19 Utilities and Service Systems

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Require or result in the relocation or construction of new or expanded water, waste water 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 waste water treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

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

Less-Than-Significant Impact. The project would consist of the replacement of four existing culverts with four new larger culverts, which would allow for better water flow and reduced erosion. Replacement of the existing drainage culverts would not result or require in the relocation of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities that could cause significant environmental effects. Therefore, a **less-than-significant impact** would occur.

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

No Impact. The project would consist of the replacement of four existing culverts with four new larger culverts. Construction of the project would temporarily require a minor amount of water in compliance with South Coast Air Quality Management District Rule 403 to prevent, reduce, or mitigate fugitive dust emissions from construction activities. Operation of the project would not generate a demand for potable water and **no impact** would occur.

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

No Impact. The project would consist of the replacement of four existing culverts with four new larger culverts. Construction and operation of the project would not generate wastewater demand, and **no impact** would occur.

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

Less-Than-Significant Impact. The project would generate solid waste during construction such as residual waste, plastics, and soils. Construction-generated solid waste would be temporary and would cease once construction is completed. Additionally, the project would operate as four unmanned drainage culverts and would not generate any substantial additional solid waste beyond current conditions. Therefore, solid waste generated by the project would not exceed state or local standards and impacts would be **less than significant**.

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

Less-Than-Significant Impact. As discussed in Section 3.19(d), construction-generated solid waste would be temporary, and operation of the project would not generate substantially more solid waste than existing conditions. Solid waste generated by the project construction would be disposed of at designated landfill facilities under federal, state, and local regulation. Additionally, the project would be required to adhere to City and County ordinances with respect to waste reduction and recycling. As a result, impacts related to state and local statutes governing solid waste would be **less than significant**.

3.20 Wildfire

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

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less-Than-Significant Impact. According to the California Department of Forestry and Fire Protection, the project sites are not located within a Fire Hazard Severity Zone (CAL FIRE 2024). During temporary construction activities, the project would implement a traffic control plan and emergency access would not be limited. The project would operate as unmanned drainage culverts and would not substantially impair any adopted emergency response plan or emergency evacuation plan, and a **less-than-significant impact** would occur.

b) Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less-Than-Significant. As stated in Section 3.20(a), the project sites are not located within a Fire Hazard Severity Zone (CAL FIRE 2024). The project would comply with Section 11.15 of the City's Municipal Code, which adopts the California Fire Code by reference. Chapter 33 of the California Fire Code outlines general fire safety precautions during construction and demolition that are intended to maintain minimum levels of fire protection and limit the spread of fire. The project would not include structures intended for long-term

occupancy. Furthermore, the project sites are relatively flat and would not influence prevailing winds or other factors that could exacerbate wildfire risk. Therefore, the project would not exacerbate fire impacts, and a **less-than-significant impact** would occur.

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

Less-Than-Significant Impact. As discussed previously, the project overall would not exacerbate fire risk. Construction would comply with California Fire Code requirements to manage and minimize fire risk during construction. Operation of the project would not involve potential sources for fire risk. Therefore, the project would not result in installation or maintenance of associated infrastructure that may exacerbate fire risk and impacts would be **less than significant**.

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

No Impact. The project would not pose a substantial risk for wildfire. The project sites are located on relatively flat land along portions of North River Road and Sleeping Indian Road and are not located within a Fire Hazard Severity Zone (CAL FIRE 2024). Additionally, the project would result in the continued operation of unmanned drainage culverts. The improvements to the drainage culverts would allow for better water flow and reduced erosion, thereby reducing potential for post-fire hazards related to drainage. Therefore, the project would not expose people or structures to significant risks and **no impact** would occur.

3.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

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

a) ***Does the project have the potential to 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?***

Less-Than-Significant Impact with Mitigation Incorporated. Potential impacts related to sensitive and special-status habitat, wildlife species, and plant species are discussed in Section 3.4, Biological Resources. As discussed in Section 3.4, all potentially significant impacts to biological resources would be reduced to a level below significance with incorporation of mitigation measures. The project would not substantially degrade the quality of the environment or impact fish and wildlife species or plant communities. As discussed in Section 3.5, potential impacts to cultural resources would be reduced to a level below significance with incorporation of mitigation measures. In addition, as discussed in Section 3.18, the project would not result in significant impacts to TCRs. The project would not eliminate important examples of the major periods of California history or prehistory. Overall, impacts would be **less than significant with incorporation of mitigation measures**.

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

Less-Than-Significant Impact with Mitigation Incorporated. As indicated in the analysis presented throughout Chapter 3 of this MND, the project would not result in significant impacts in any issue area that cannot be reduced by mitigation. Mitigation measures would reduce all impacts to below a level of significance. The project's impacts would also not combine with those of other future projects to create significant cumulative impacts. The project is located near two approved projects, North River Farms and a Conditional Use Permit (CUP19-0023) project zoned for cannabis cultivation, mixed light. North River Farms, which was approved in 2019, is a planned development project consisting of a General Plan

Amendment, Zoning Ordinance Amendment, Planned Development Plan, and Vesting Tentative Map, which will guide the development of a planned residential, mixed-use, sustainable community on 214.1 acres of land in the northeastern portion of the City along North River Road (Dudek 2019). It is likely that North River Farms will overlap with the project construction activities along North River Road. If the North River Farms and project construction overlap, coordination between the contractors and implementation of traffic control plans would reduce potential impacts to less than significant. Additionally, the project sites are located near four projects that are currently under review (City of Oceanside 2025). The project would not overlap with these projects, and impacts would be less than significant. Overall, cumulative impacts from the project would be **less than significant with mitigation incorporated**.

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

Less-Than-Significant Impact. The potential for adverse direct or indirect impacts on human beings was considered throughout Chapter 3 of this MND. Based on this evaluation, there is no substantial evidence that construction or operation of the project would result in a substantial adverse effect on human beings. Impacts would be **less than significant**.

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Oceanside Culvert
Construction Start Date	6/3/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	12.0
Location	33.25980635401331, -117.26855768085332
County	San Diego
City	Oceanside
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6205
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Other Asphalt Surfaces	2.13	1000sqft	0.05	0.00	0.00	0.00	—	Parking used as a surrogate land use most similar to portion of road construction

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.22	1.01	9.59	9.36	0.02	0.38	5.15	5.54	0.35	2.59	2.94	—	2,109	2,109	0.09	0.10	1.63	2,142
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.20	1.00	9.23	9.15	0.02	0.38	5.08	5.45	0.35	2.57	2.91	—	1,815	1,815	0.08	0.05	0.03	1,833
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.11	0.09	0.79	0.96	< 0.005	0.03	0.18	0.21	0.03	0.09	0.12	—	188	188	0.01	0.01	0.06	190
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.02	0.14	0.18	< 0.005	0.01	0.03	0.04	0.01	0.02	0.02	—	31.2	31.2	< 0.005	< 0.005	0.01	31.5

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.22	1.01	9.59	9.36	0.02	0.38	5.15	5.54	0.35	2.59	2.94	—	2,109	2,109	0.09	0.10	1.63	2,142
2026	1.14	0.95	8.58	8.84	0.02	0.34	5.08	5.42	0.32	2.57	2.88	—	1,815	1,815	0.08	0.05	0.92	1,833
2027	1.11	0.92	8.26	8.79	0.02	0.32	5.08	5.40	0.30	2.57	2.86	—	1,808	1,808	0.08	0.05	0.84	1,825
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.20	1.00	9.23	9.15	0.02	0.38	5.08	5.45	0.35	2.57	2.91	—	1,815	1,815	0.08	0.05	0.03	1,833
2026	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
2027	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.11	0.09	0.79	0.96	< 0.005	0.03	0.18	0.21	0.03	0.09	0.12	—	188	188	0.01	0.01	0.06	190
2026	0.05	0.04	0.33	0.43	< 0.005	0.01	0.08	0.09	0.01	0.04	0.05	—	82.4	82.4	< 0.005	< 0.005	0.02	83.1
2027	0.05	0.04	0.34	0.46	< 0.005	0.01	0.08	0.09	0.01	0.04	0.05	—	89.0	89.0	< 0.005	< 0.005	0.02	89.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.02	0.02	0.14	0.18	< 0.005	0.01	0.03	0.04	0.01	0.02	0.02	—	31.2	31.2	< 0.005	< 0.005	0.01	31.5
2026	0.01	0.01	0.06	0.08	< 0.005	< 0.005	0.01	0.02	< 0.005	0.01	0.01	—	13.6	13.6	< 0.005	< 0.005	< 0.005	13.8
2027	0.01	0.01	0.06	0.08	< 0.005	< 0.005	0.01	0.02	< 0.005	0.01	0.01	—	14.7	14.7	< 0.005	< 0.005	< 0.005	14.9

3. Construction Emissions Details

3.1. P1 Open Cut Remove Culvert (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.39	3.51	4.22	0.01	0.12	—	0.12	0.11	—	0.11	—	634	634	0.03	0.01	—	637
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.69	8.69	< 0.005	< 0.005	—	8.72
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.44	1.44	< 0.005	< 0.005	—	1.44
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.05	0.05	0.04	0.56	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	114	114	0.01	< 0.005	0.43	116
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.01	0.26	105
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.49	1.49	< 0.005	< 0.005	< 0.005	1.51
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.37	1.37	< 0.005	< 0.005	< 0.005	1.43
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.25
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.24
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. P3 Open Cut Remove Culvert (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.39	3.51	4.22	0.01	0.12	—	0.12	0.11	—	0.11	—	634	634	0.03	0.01	—	637
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.69	8.69	< 0.005	< 0.005	—	8.72
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.44	1.44	< 0.005	< 0.005	—	1.44
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.49	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	108	108	0.01	< 0.005	0.01	109
Vendor	0.01	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.01	0.01	104
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.49	1.49	< 0.005	< 0.005	< 0.005	1.51
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.37	1.37	< 0.005	< 0.005	< 0.005	1.43

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.25
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.24
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. P67 Open Cut Remove Culvert (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.32	4.15	0.01	0.11	—	0.11	0.10	—	0.10	—	634	634	0.03	0.01	—	636
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.95	6.95	< 0.005	< 0.005	—	6.97
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.15	1.15	< 0.005	< 0.005	—	1.15
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.39	113
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.3	98.3	< 0.005	0.01	0.24	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.16	1.16	< 0.005	< 0.005	< 0.005	1.18
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. P4 Open Cut Remove Culvert (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.20	4.12	0.01	0.10	—	0.10	0.09	—	0.09	—	634	634	0.03	0.01	—	636
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.69	8.69	< 0.005	< 0.005	—	8.72
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.44	1.44	< 0.005	< 0.005	—	1.44
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.49	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	110	110	0.01	< 0.005	0.36	111
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	96.2	96.2	< 0.005	0.01	0.21	100
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.43	1.43	< 0.005	< 0.005	< 0.005	1.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.38
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.24	0.24	< 0.005	< 0.005	< 0.005	0.24
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. P1 Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.10	1.91	< 0.005	0.04	—	0.04	0.04	—	0.04	—	290	290	0.01	< 0.005	—	291

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.39	2.39	< 0.005	< 0.005	—	2.40
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.40	0.40	< 0.005	< 0.005	—	0.40
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.46	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	94.9	94.9	< 0.005	< 0.005	0.36	96.3

Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.01	0.26	105
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	< 0.005	0.86
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.14	0.14	< 0.005	< 0.005	< 0.005	0.14
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. P3 Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.10	1.91	< 0.005	0.04	—	0.04	0.04	—	0.04	—	290	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.39	2.39	< 0.005	< 0.005	—	2.40
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.40	0.40	< 0.005	< 0.005	—	0.40
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.6	89.6	< 0.005	< 0.005	0.01	90.8
Vendor	0.01	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.01	0.01	104
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	< 0.005	0.86
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.14	0.14	< 0.005	< 0.005	< 0.005	0.14
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. P3 Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.40	3.73	4.99	0.01	0.17	—	0.17	0.16	—	0.16	—	756	756	0.03	0.01	—	758
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.4	10.4	< 0.005	< 0.005	—	10.4
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.71	1.71	< 0.005	< 0.005	—	1.72
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.6	89.6	< 0.005	< 0.005	0.01	90.8
Vendor	0.01	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.01	0.01	104
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.24	1.24	< 0.005	< 0.005	< 0.005	1.26
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.37	1.37	< 0.005	< 0.005	< 0.005	1.43
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.21	0.21	< 0.005	< 0.005	< 0.005	0.21
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.24
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. P67 Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	1.03	1.91	< 0.005	0.03	—	0.03	0.03	—	0.03	—	290	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.39	2.39	< 0.005	< 0.005	—	2.39
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.40	0.40	< 0.005	< 0.005	—	0.40
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.43	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	93.0	93.0	< 0.005	< 0.005	0.33	94.4
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.3	98.3	< 0.005	0.01	0.24	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.74
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.81	0.81	< 0.005	< 0.005	< 0.005	0.84
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.14
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. P67 Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.45	0.38	3.56	4.97	0.01	0.16	—	0.16	0.15	—	0.15	—	755	755	0.03	0.01	—	758
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.71	1.71	< 0.005	< 0.005	—	1.72
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.43	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	93.0	93.0	< 0.005	< 0.005	0.33	94.4
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.3	98.3	< 0.005	0.01	0.24	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.21	1.21	< 0.005	< 0.005	< 0.005	1.23
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.35	1.35	< 0.005	< 0.005	< 0.005	1.41
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.19. P4 Site Preparation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.99	1.91	< 0.005	0.03	—	0.03	0.03	—	0.03	—	290	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.39	2.39	< 0.005	< 0.005	—	2.39
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.40	0.40	< 0.005	< 0.005	—	0.40

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	91.4	91.4	< 0.005	< 0.005	0.30	92.8
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	96.2	96.2	< 0.005	0.01	0.21	100
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.72	0.72	< 0.005	< 0.005	< 0.005	0.73
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.83
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.14
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.21. P4 Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.47	4.98	0.01	0.15	—	0.15	0.14	—	0.14	—	756	756	0.03	0.01	—	758
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.4	10.4	< 0.005	< 0.005	—	10.4
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.71	1.71	< 0.005	< 0.005	—	1.72
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	91.4	91.4	< 0.005	< 0.005	0.30	92.8
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	96.2	96.2	< 0.005	0.01	0.21	100
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.21
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.38
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.23. P1 Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.12	0.94	8.86	8.53	0.01	0.37	—	0.37	0.34	—	0.34	—	1,464	1,464	0.06	0.01	—	1,469
Dust From Material Movement	—	—	—	—	—	—	4.92	4.92	—	2.53	2.53	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.0	16.0	< 0.005	< 0.005	—	16.1
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.66	2.66	< 0.005	< 0.005	—	2.66
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.56	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	114	114	0.01	< 0.005	0.43	116
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.01	0.26	105
Hauling	0.03	0.01	0.57	0.21	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	431	431	0.02	0.07	0.94	453
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.21
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.10	1.10	< 0.005	< 0.005	< 0.005	1.15
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.73	4.73	< 0.005	< 0.005	< 0.005	4.96
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.82

3.25. P3 Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.12	0.94	8.86	8.53	0.01	0.37	—	0.37	0.34	—	0.34	—	1,464	1,464	0.06	0.01	—	1,469
Dust From Material Movement	—	—	—	—	—	—	4.91	4.91	—	2.53	2.53	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	32.1	32.1	< 0.005	< 0.005	—	32.2
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.31	5.31	< 0.005	< 0.005	—	5.33
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.49	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	108	108	0.01	< 0.005	0.01	109
Vendor	0.01	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.01	0.01	104
Hauling	0.01	< 0.005	0.20	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	144	144	0.01	0.02	0.01	151
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.38	2.38	< 0.005	< 0.005	< 0.005	2.41
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.19	2.19	< 0.005	< 0.005	< 0.005	2.29
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.15	3.15	< 0.005	< 0.005	< 0.005	3.31
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.39	0.39	< 0.005	< 0.005	< 0.005	0.40
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.36	0.36	< 0.005	< 0.005	< 0.005	0.38
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.52	0.52	< 0.005	< 0.005	< 0.005	0.55

3.27. P67 Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	0.90	8.24	8.19	0.01	0.34	—	0.34	0.31	—	0.31	—	1,464	1,464	0.06	0.01	—	1,469
Dust From Material Movement	—	—	—	—	—	—	4.91	4.91	—	2.53	2.53	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.11	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.1	20.1	< 0.005	< 0.005	—	20.1
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.32	3.32	< 0.005	< 0.005	—	3.33
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.39	113
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.3	98.3	< 0.005	0.01	0.24	103
Hauling	0.01	< 0.005	0.18	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	0.01	0.02	0.29	148

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.46	1.46	< 0.005	< 0.005	< 0.005	1.48
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.35	1.35	< 0.005	< 0.005	< 0.005	1.41
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.93	1.93	< 0.005	< 0.005	< 0.005	2.02
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.24	0.24	< 0.005	< 0.005	< 0.005	0.24
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.34

3.29. P4 Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.04	0.88	7.93	8.06	0.01	0.32	—	0.32	0.29	—	0.29	—	1,464	1,464	0.06	0.01	—	1,469
Dust From Material Movement	—	—	—	—	—	—	4.91	4.91	—	2.53	2.53	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.11	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.1	20.1	< 0.005	< 0.005	—	20.1
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.32	3.32	< 0.005	< 0.005	—	3.33
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.49	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	110	110	0.01	< 0.005	0.36	111
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	96.2	96.2	< 0.005	0.01	0.21	100
Hauling	0.01	< 0.005	0.17	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	137	137	0.01	0.02	0.27	144
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.43	1.43	< 0.005	< 0.005	< 0.005	1.45

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.38
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.88	1.88	< 0.005	< 0.005	< 0.005	1.97
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.24	0.24	< 0.005	< 0.005	< 0.005	0.24
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.33

3.31. P1Culvert Const (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.28	6.37	0.01	0.22	—	0.22	0.20	—	0.20	—	1,212	1,212	0.05	0.01	—	1,216
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.6	26.6	< 0.005	< 0.005	—	26.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.40	4.40	< 0.005	< 0.005	—	4.41
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.56	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	114	114	0.01	< 0.005	0.43	116
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.01	0.26	105
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.38	2.38	< 0.005	< 0.005	< 0.005	2.41
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.19	2.19	< 0.005	< 0.005	< 0.005	2.29
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.39	0.39	< 0.005	< 0.005	< 0.005	0.40
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.36	0.36	< 0.005	< 0.005	< 0.005	0.38
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.33. P3 Culvert Const (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	0.67	6.39	8.28	0.01	0.26	—	0.26	0.24	—	0.24	—	1,503	1,503	0.06	0.01	—	1,508
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.8	28.8	< 0.005	< 0.005	—	28.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.77	4.77	< 0.005	< 0.005	—	4.79
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.49	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	108	108	0.01	< 0.005	0.01	109
Vendor	0.01	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.01	0.01	104
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.08	2.08	< 0.005	< 0.005	< 0.005	2.11
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.92	1.92	< 0.005	< 0.005	< 0.005	2.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.34	0.34	< 0.005	< 0.005	< 0.005	0.35
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.35. P67 Culvert Const (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.64	6.04	8.25	0.01	0.23	—	0.23	0.21	—	0.21	—	1,502	1,502	0.06	0.01	—	1,508
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.09	4.09	< 0.005	< 0.005	—	4.10
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.39	113
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.3	98.3	< 0.005	0.01	0.24	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.75	1.75	< 0.005	< 0.005	< 0.005	1.77
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.62	1.62	< 0.005	< 0.005	< 0.005	1.69
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	< 0.005	0.29
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.28
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.37. P4 Culvert Const (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.74	0.62	5.78	8.24	0.01	0.20	—	0.20	0.19	—	0.19	—	1,502	1,502	0.06	0.01	—	1,508
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.01	0.01	0.11	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.8	28.8	< 0.005	< 0.005	—	28.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.77	4.77	< 0.005	< 0.005	—	4.79
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.49	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	110	110	0.01	< 0.005	0.36	111
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	96.2	96.2	< 0.005	0.01	0.21	100
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.00	2.00	< 0.005	< 0.005	< 0.005	2.03

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.84	1.84	< 0.005	< 0.005	< 0.005	1.93
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.34
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.32
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.39. P1 Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.40	3.73	4.99	0.01	0.17	—	0.17	0.16	—	0.16	—	756	756	0.03	0.01	—	758
Paving	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.40	3.73	4.99	0.01	0.17	—	0.17	0.16	—	0.16	—	756	756	0.03	0.01	—	758
Paving	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.21	6.21	< 0.005	< 0.005	—	6.23
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.03	1.03	< 0.005	< 0.005	—	1.03
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.46	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	94.9	94.9	< 0.005	< 0.005	0.36	96.3
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.01	0.26	105
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.6	89.6	< 0.005	< 0.005	0.01	90.8
Vendor	0.01	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.01	0.01	104
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	< 0.005	0.86
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.14	0.14	< 0.005	< 0.005	< 0.005	0.14
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.41. P1 Road Striping (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.10	1.10	< 0.005	< 0.005	—	1.10
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.18	0.18	< 0.005	< 0.005	—	0.18
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.6	89.6	< 0.005	< 0.005	0.01	90.8
Vendor	0.01	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.01	0.01	104
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	< 0.005	0.86
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.14	0.14	< 0.005	< 0.005	< 0.005	0.14
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.43. P3 Road Striping (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.93	2.93	< 0.005	< 0.005	—	2.94
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.48	0.48	< 0.005	< 0.005	—	0.49
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.6	89.6	< 0.005	< 0.005	0.01	90.8
Vendor	0.01	< 0.005	0.14	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.01	0.01	104
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.98	1.98	< 0.005	< 0.005	< 0.005	2.01
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.19	2.19	< 0.005	< 0.005	< 0.005	2.29
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.33
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.36	0.36	< 0.005	< 0.005	< 0.005	0.38
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.45. P67 Road Striping (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.46	1.46	< 0.005	< 0.005	—	1.47
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.24	0.24	< 0.005	< 0.005	—	0.24

Architectural Coating	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.43	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	93.0	93.0	< 0.005	< 0.005	0.33	94.4
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.3	98.3	< 0.005	0.01	0.24	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.97	0.97	< 0.005	< 0.005	< 0.005	0.98
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.13
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.16
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.47. P4 Road Striping (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.46	1.46	< 0.005	< 0.005	—	1.47
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.24	0.24	< 0.005	< 0.005	—	0.24
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	91.4	91.4	< 0.005	< 0.005	0.30	92.8
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	96.2	96.2	< 0.005	0.01	0.21	100
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.05	1.05	< 0.005	< 0.005	< 0.005	1.10
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.16
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
P1 Open Cut Remove Culvert	Demolition	9/4/2025	9/10/2025	5.00	5.00	—
P3 Open Cut Remove Culvert	Demolition	10/16/2025	10/22/2025	5.00	5.00	—
P67 Open Cut Remove Culvert	Demolition	8/27/2026	9/1/2026	5.00	4.00	—
P4 Open Cut Remove Culvert	Demolition	8/26/2027	9/1/2027	5.00	5.00	—
P1 Site Preparation	Site Preparation	9/1/2025	9/3/2025	5.00	3.00	—
P3 Site Preparation	Site Preparation	10/13/2025	10/15/2025	5.00	3.00	—
P3 Paving	Site Preparation	11/19/2025	11/25/2025	5.00	5.00	Surrogate
P67 Site Preparation	Site Preparation	8/24/2026	8/26/2026	5.00	3.00	—
P67 Paving	Site Preparation	9/17/2026	9/23/2026	5.00	5.00	Surrogate
P4 Site Preparation	Site Preparation	8/23/2027	8/25/2027	5.00	3.00	—
P4 Paving	Site Preparation	9/20/2027	9/24/2027	5.00	5.00	Surrogate
P1 Grading	Grading	9/11/2025	9/16/2025	5.00	4.00	—
P3 Grading	Grading	10/29/2025	11/7/2025	5.00	8.00	—
P67 Grading	Grading	9/2/2026	9/8/2026	5.00	5.00	—
P4 Grading	Grading	9/2/2027	9/8/2027	5.00	5.00	—
P1Culvert Const	Building Construction	9/17/2025	9/26/2025	5.00	8.00	—
P3 Culvert Const	Building Construction	11/8/2025	11/18/2025	5.00	7.00	—
P67 Culvert Const	Building Construction	9/9/2026	9/16/2026	5.00	6.00	—
P4 Culvert Const	Building Construction	9/9/2027	9/17/2027	5.00	7.00	—
P1 Paving	Paving	9/27/2025	10/1/2025	5.00	3.00	—
P1 Road Striping	Architectural Coating	10/2/2025	10/6/2025	5.00	3.00	—
P3 Road Striping	Architectural Coating	11/26/2025	12/5/2025	5.00	8.00	—
P67 Road Striping	Architectural Coating	9/24/2026	9/29/2026	5.00	4.00	—

P4 Road Striping	Architectural Coating	9/27/2027	9/30/2027	5.00	4.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
P1 Open Cut Remove Culvert	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
P1 Open Cut Remove Culvert	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
P1 Open Cut Remove Culvert	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
P3 Open Cut Remove Culvert	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
P3 Open Cut Remove Culvert	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
P3 Open Cut Remove Culvert	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
P67 Open Cut Remove Culvert	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
P67 Open Cut Remove Culvert	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
P67 Open Cut Remove Culvert	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
P4 Open Cut Remove Culvert	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
P4 Open Cut Remove Culvert	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
P4 Open Cut Remove Culvert	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
P1 Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

P3 Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
P3 Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
P3 Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
P3 Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
P67 Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
P67 Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
P67 Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
P67 Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
P4 Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
P4 Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
P4 Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
P4 Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
P1 Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
P1 Grading	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
P1 Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
P1 Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
P3 Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
P3 Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
P3 Grading	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
P3 Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
P67 Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
P67 Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
P67 Grading	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
P67 Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
P4 Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40

P4 Grading	Tractors/Loaders/Back	Diesel	Average	1.00	7.00	84.0	0.37
P4 Grading	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
P4 Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
P1Culvert Const	Cranes	Diesel	Average	1.00	4.00	367	0.29
P1Culvert Const	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
P1Culvert Const	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
P1Culvert Const	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
P1Culvert Const	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
P3 Culvert Const	Cranes	Diesel	Average	1.00	4.00	367	0.29
P3 Culvert Const	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
P3 Culvert Const	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
P3 Culvert Const	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
P3 Culvert Const	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
P67 Culvert Const	Cranes	Diesel	Average	1.00	4.00	367	0.29
P67 Culvert Const	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
P67 Culvert Const	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
P67 Culvert Const	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
P67 Culvert Const	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
P4 Culvert Const	Cranes	Diesel	Average	1.00	4.00	367	0.29
P4 Culvert Const	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
P4 Culvert Const	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
P4 Culvert Const	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
P4 Culvert Const	Excavators	Diesel	Average	1.00	8.00	36.0	0.38

P1 Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
P1 Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
P1 Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
P1 Road Striping	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
P3 Road Striping	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
P67 Road Striping	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
P4 Road Striping	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
P1 Open Cut Remove Culvert	—	—	—	—
P1 Open Cut Remove Culvert	Worker	12.0	12.0	LDA,LDT1,LDT2
P1 Open Cut Remove Culvert	Vendor	4.00	7.63	HHDT,MHDT
P1 Open Cut Remove Culvert	Hauling	0.00	20.0	HHDT
P1 Open Cut Remove Culvert	Onsite truck	0.00	—	HHDT
P1 Site Preparation	—	—	—	—
P1 Site Preparation	Worker	10.0	12.0	LDA,LDT1,LDT2
P1 Site Preparation	Vendor	4.00	7.63	HHDT,MHDT
P1 Site Preparation	Hauling	0.00	20.0	HHDT
P1 Site Preparation	Onsite truck	0.00	—	HHDT
P1 Grading	—	—	—	—
P1 Grading	Worker	12.0	12.0	LDA,LDT1,LDT2
P1 Grading	Vendor	4.00	7.63	HHDT,MHDT
P1 Grading	Hauling	6.00	20.0	HHDT
P1 Grading	Onsite truck	0.00	—	HHDT
P1Culvert Const	—	—	—	—

P1Culvert Const	Worker	12.0	12.0	LDA,LDT1,LDT2
P1Culvert Const	Vendor	4.00	7.63	HHDT,MHDT
P1Culvert Const	Hauling	0.00	20.0	HHDT
P1Culvert Const	Onsite truck	0.00	—	HHDT
P1 Paving	—	—	—	—
P1 Paving	Worker	10.0	12.0	LDA,LDT1,LDT2
P1 Paving	Vendor	4.00	7.63	HHDT,MHDT
P1 Paving	Hauling	0.00	20.0	HHDT
P1 Paving	Onsite truck	0.00	—	HHDT
P1 Road Striping	—	—	—	—
P1 Road Striping	Worker	10.0	12.0	LDA,LDT1,LDT2
P1 Road Striping	Vendor	4.00	7.63	HHDT,MHDT
P1 Road Striping	Hauling	0.00	20.0	HHDT
P1 Road Striping	Onsite truck	0.00	—	HHDT
P3 Open Cut Remove Culvert	—	—	—	—
P3 Open Cut Remove Culvert	Worker	12.0	12.0	LDA,LDT1,LDT2
P3 Open Cut Remove Culvert	Vendor	4.00	7.63	HHDT,MHDT
P3 Open Cut Remove Culvert	Hauling	0.00	20.0	HHDT
P3 Open Cut Remove Culvert	Onsite truck	0.00	—	HHDT
P67 Open Cut Remove Culvert	—	—	—	—
P67 Open Cut Remove Culvert	Worker	12.0	12.0	LDA,LDT1,LDT2
P67 Open Cut Remove Culvert	Vendor	4.00	7.63	HHDT,MHDT
P67 Open Cut Remove Culvert	Hauling	0.00	20.0	HHDT
P67 Open Cut Remove Culvert	Onsite truck	0.00	—	HHDT
P4 Open Cut Remove Culvert	—	—	—	—
P4 Open Cut Remove Culvert	Worker	12.0	12.0	LDA,LDT1,LDT2
P4 Open Cut Remove Culvert	Vendor	4.00	7.63	HHDT,MHDT
P4 Open Cut Remove Culvert	Hauling	0.00	20.0	HHDT

P4 Open Cut Remove Culvert	Onsite truck	0.00	—	HHDT
P3 Site Preparation	—	—	—	—
P3 Site Preparation	Worker	10.0	12.0	LDA,LDT1,LDT2
P3 Site Preparation	Vendor	4.00	7.63	HHDT,MHDT
P3 Site Preparation	Hauling	0.00	20.0	HHDT
P3 Site Preparation	Onsite truck	0.00	—	HHDT
P3 Paving	—	—	—	—
P3 Paving	Worker	10.0	12.0	LDA,LDT1,LDT2
P3 Paving	Vendor	4.00	7.63	HHDT,MHDT
P3 Paving	Hauling	0.00	20.0	HHDT
P3 Paving	Onsite truck	0.00	—	HHDT
P67 Site Preparation	—	—	—	—
P67 Site Preparation	Worker	10.0	12.0	LDA,LDT1,LDT2
P67 Site Preparation	Vendor	4.00	7.63	HHDT,MHDT
P67 Site Preparation	Hauling	0.00	20.0	HHDT
P67 Site Preparation	Onsite truck	0.00	—	HHDT
P67 Paving	—	—	—	—
P67 Paving	Worker	10.0	12.0	LDA,LDT1,LDT2
P67 Paving	Vendor	4.00	7.63	HHDT,MHDT
P67 Paving	Hauling	0.00	20.0	HHDT
P67 Paving	Onsite truck	0.00	—	HHDT
P4 Site Preparation	—	—	—	—
P4 Site Preparation	Worker	10.0	12.0	LDA,LDT1,LDT2
P4 Site Preparation	Vendor	4.00	7.63	HHDT,MHDT
P4 Site Preparation	Hauling	0.00	20.0	HHDT
P4 Site Preparation	Onsite truck	0.00	—	HHDT
P4 Paving	—	—	—	—
P4 Paving	Worker	10.0	12.0	LDA,LDT1,LDT2

P4 Paving	Vendor	4.00	7.63	HHDT,MHDT
P4 Paving	Hauling	0.00	20.0	HHDT
P4 Paving	Onsite truck	0.00	—	HHDT
P3 Grading	—	—	—	—
P3 Grading	Worker	12.0	12.0	LDA,LDT1,LDT2
P3 Grading	Vendor	4.00	7.63	HHDT,MHDT
P3 Grading	Hauling	2.00	20.0	HHDT
P3 Grading	Onsite truck	0.00	—	HHDT
P67 Grading	—	—	—	—
P67 Grading	Worker	12.0	12.0	LDA,LDT1,LDT2
P67 Grading	Vendor	4.00	7.63	HHDT,MHDT
P67 Grading	Hauling	2.00	20.0	HHDT
P67 Grading	Onsite truck	0.00	—	HHDT
P4 Grading	—	—	—	—
P4 Grading	Worker	12.0	12.0	LDA,LDT1,LDT2
P4 Grading	Vendor	4.00	7.63	HHDT,MHDT
P4 Grading	Hauling	2.00	20.0	HHDT
P4 Grading	Onsite truck	0.00	—	HHDT
P3 Culvert Const	—	—	—	—
P3 Culvert Const	Worker	12.0	12.0	LDA,LDT1,LDT2
P3 Culvert Const	Vendor	4.00	7.63	HHDT,MHDT
P3 Culvert Const	Hauling	0.00	20.0	HHDT
P3 Culvert Const	Onsite truck	0.00	—	HHDT
P67 Culvert Const	—	—	—	—
P67 Culvert Const	Worker	12.0	12.0	LDA,LDT1,LDT2
P67 Culvert Const	Vendor	4.00	7.63	HHDT,MHDT
P67 Culvert Const	Hauling	0.00	20.0	HHDT
P67 Culvert Const	Onsite truck	0.00	—	HHDT

P4 Culvert Const	—	—	—	—
P4 Culvert Const	Worker	12.0	12.0	LDA,LDT1,LDT2
P4 Culvert Const	Vendor	4.00	7.63	HHDT,MHDT
P4 Culvert Const	Hauling	0.00	20.0	HHDT
P4 Culvert Const	Onsite truck	0.00	—	HHDT
P3 Road Striping	—	—	—	—
P3 Road Striping	Worker	10.0	12.0	LDA,LDT1,LDT2
P3 Road Striping	Vendor	4.00	7.63	HHDT,MHDT
P3 Road Striping	Hauling	0.00	20.0	HHDT
P3 Road Striping	Onsite truck	0.00	—	HHDT
P67 Road Striping	—	—	—	—
P67 Road Striping	Worker	10.0	12.0	LDA,LDT1,LDT2
P67 Road Striping	Vendor	4.00	7.63	HHDT,MHDT
P67 Road Striping	Hauling	0.00	20.0	HHDT
P67 Road Striping	Onsite truck	0.00	—	HHDT
P4 Road Striping	—	—	—	—
P4 Road Striping	Worker	10.0	12.0	LDA,LDT1,LDT2
P4 Road Striping	Vendor	4.00	7.63	HHDT,MHDT
P4 Road Striping	Hauling	0.00	20.0	HHDT
P4 Road Striping	Onsite truck	0.00	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

P1 Road Striping	0.00	0.00	0.00	0.00	24.3
P3 Road Striping	0.00	0.00	0.00	0.00	54.6
P67 Road Striping	0.00	0.00	0.00	0.00	30.4
P4 Road Striping	0.00	0.00	0.00	0.00	18.2

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
P1 Open Cut Remove Culvert	0.00	0.00	0.00	0.00	—
P3 Open Cut Remove Culvert	0.00	0.00	0.00	0.00	—
P67 Open Cut Remove Culvert	0.00	0.00	0.00	0.00	—
P4 Open Cut Remove Culvert	0.00	0.00	0.00	0.00	—
P1 Site Preparation	—	—	0.00	0.00	—
P3 Site Preparation	—	—	0.00	0.00	—
P3 Paving	—	—	0.00	0.00	—
P67 Site Preparation	—	—	0.00	0.00	—
P67 Paving	—	—	0.00	0.00	—
P4 Site Preparation	—	—	0.00	0.00	—
P4 Paving	—	—	0.00	0.00	—
P1 Grading	—	153	1.50	0.00	—
P3 Grading	—	67.0	3.00	0.00	—
P67 Grading	—	69.0	1.88	0.00	—
P4 Grading	—	75.0	1.88	0.00	—
P1 Paving	0.00	0.00	0.00	0.00	0.05

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Asphalt Surfaces	0.05	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	589	0.03	< 0.005
2026	0.00	589	0.03	< 0.005
2027	0.00	589	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.56	annual days of extreme heat
Extreme Precipitation	3.75	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	30.1	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	45.1

AQ-PM	23.2
AQ-DPM	43.6
Drinking Water	70.7
Lead Risk Housing	13.0
Pesticides	97.4
Toxic Releases	12.9
Traffic	27.9
Effect Indicators	—
CleanUp Sites	68.9
Groundwater	30.9
Haz Waste Facilities/Generators	2.51
Impaired Water Bodies	66.7
Solid Waste	63.7
Sensitive Population	—
Asthma	5.61
Cardio-vascular	11.1
Low Birth Weights	47.1
Socioeconomic Factor Indicators	—
Education	47.5
Housing	39.7
Linguistic	27.3
Poverty	28.6
Unemployment	53.9

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—

Above Poverty	65.67432311
Employed	18.74759399
Median HI	75.24701655
Education	—
Bachelor's or higher	68.29205697
High school enrollment	18.45245733
Preschool enrollment	17.29757475
Transportation	—
Auto Access	51.48209932
Active commuting	18.47812139
Social	—
2-parent households	26.26716284
Voting	76.10676248
Neighborhood	—
Alcohol availability	90.61978699
Park access	23.18747594
Retail density	5.51777236
Supermarket access	9.854998075
Tree canopy	50.42987296
Housing	—
Homeownership	72.5009624
Housing habitability	51.48209932
Low-inc homeowner severe housing cost burden	32.6318491
Low-inc renter severe housing cost burden	25.49724111
Uncrowded housing	42.30719877
Health Outcomes	—
Insured adults	72.88592326
Arthritis	76.8

Asthma ER Admissions	83.1
High Blood Pressure	87.7
Cancer (excluding skin)	55.0
Asthma	72.9
Coronary Heart Disease	79.3
Chronic Obstructive Pulmonary Disease	76.7
Diagnosed Diabetes	68.9
Life Expectancy at Birth	63.9
Cognitively Disabled	38.1
Physically Disabled	63.7
Heart Attack ER Admissions	88.1
Mental Health Not Good	63.6
Chronic Kidney Disease	73.0
Obesity	61.8
Pedestrian Injuries	19.6
Physical Health Not Good	72.6
Stroke	80.6
Health Risk Behaviors	—
Binge Drinking	12.7
Current Smoker	66.4
No Leisure Time for Physical Activity	63.5
Climate Change Exposures	—
Wildfire Risk	1.1
SLR Inundation Area	0.0
Children	68.4
Elderly	55.7
English Speaking	74.4
Foreign-born	27.8

Outdoor Workers	85.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	80.6
Traffic Density	10.3
Traffic Access	47.4
Other Indices	—
Hardship	47.4
Other Decision Support	—
2016 Voting	79.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	29.0
Healthy Places Index Score for Project Location (b)	50.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Off-Road Equipment	Based on project specific construction equipment.
Construction: Construction Phases	Project specific construction schedule
Construction: Trips and VMT	Project specific information.

Appendix B
Biological Resources Technical Report

Biological Resources Technical Report

North River Road and Sleeping Indian Road Drainage Improvements Project

JULY 2025

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
°F	degrees Fahrenheit
amsl	above mean sea level
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
FESA	federal Endangered Species Act
HCP	habitat conservation plan
MBTA	Migratory Bird Treaty Act
MHCP	Multiple Habitat Conservation Program
MM	Mitigation Measure
NCCP	natural community conservation plan
NRCS	Natural Resources Conservation Service
project	North River Road and Sleeping Indian Road Drainage Improvements Project
RWQCB	Regional Water Quality Control Board
SSC	California Species of Special Concern
SWPPP	stormwater pollution prevention plan
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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1 Introduction

This report presents the findings of a biological resources assessment conducted by Dudek for the proposed North River Road and Sleeping Indian Road Drainage Improvements Project (project). The purpose of this assessment is to evaluate the existing biological conditions and potential impacts to sensitive biological resources associated with the proposed project, including a 300-foot buffer (study area). This report is prepared at a level of detail sufficient to address California Environmental Quality Act (CEQA) requirements, specifically the biological thresholds of significance included in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and identify the potential need for permits for sensitive resources protected under federal and state regulations.

1.1 Project Location

The project is located in the City of Oceanside, in northern San Diego County, California. It is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive (Figures 1 and 2). The project would include the replacement of four existing arch corrugated metal pipe culverts with four new concrete box culverts. Culvert 1 is located along Sleeping Indian Road, approximately 0.5 miles north of the Sleeping Indian Road and North River Road intersection. Culvert 1 is oriented northeast/southwest underneath Sleeping Indian Road, which runs generally north to south. Culverts 2–4 are oriented north/south underneath North River Road, which runs generally east/west. Culvert 2 is located along North River Road, immediately to the west of the Sleeping Indian Road and North River Road intersection. Culvert 3 is located along North River Road, approximately 0.1 miles west of Culvert 2. Culvert 4 is located along North River Road, approximately 0.25 miles west of Culvert 3.

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2 Regulatory Context

This chapter describes the regulatory framework relevant to the project.

2.1 Federal Regulations

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. FESA is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and to provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. FESA defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range" (16 USC 1532[6]). A threatened species is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (16 USC 1532[20]) Under FESA, it is unlawful to take any listed species; "take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC 1532[19]).

FESA allows for the issuance of Incidental Take Permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans (HCPs) on private property without any other federal agency involvement. Upon development of an HCP, USFWS can issue Incidental Take Permits for listed species.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others (16 USC 703–712). Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds. The MBTA protects more than 800 species. Two species of eagles that are native to the United States—bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*)—were granted additional protection within the United States under the Bald and Golden Eagle Protection Act (16 USC 668–668d) to prevent these species from becoming extinct.

Section 404 of the Clean Water Act

The objective of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Under Section 404 of the CWA, the U.S. Army Corps of Engineers (USACE) has the authority to regulate activities that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the United States. USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or function.

Section 401 of the Clean Water Act

The State Water Resources Control Board has authority over wetlands through Section 401 of the CWA, as well as the Porter–Cologne Water Quality Control Act, California Code of Regulations Title 23 Sections 3830–3838, 3855–3861, and California Wetlands Conservation Policy. The CWA requires that an applicant for a Section 404 permit (to discharge dredge or fill material into waters of the United States) first obtain certification from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the State Water Resources Control Board to the nine regional boards. The San Diego Regional Water Quality Control Board (RWQCB) has authority for Section 401 compliance in the project area. A request for certification is submitted to the regional board at the same time that an application is filed with USACE.

2.2 State Regulations

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA), which prohibits the take of plant and animal species designated by the Fish and Game Commission as endangered or threatened in California. Under CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (California Fish and Game Code, Section 86). CESA stipulates that state agencies may not approve projects that will "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy" (California Fish and Game Code, Section 2053).

CESA defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease" (California Fish and Game Code, Section 2062). CESA defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as 'rare' on or before January 1, 1985, is a 'threatened species'" (California Fish and Game Code, Section 2067). A candidate species is defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list" (California Fish and Game Code, Section 2068). CESA does not list invertebrate species.

California Fish and Game Code Sections 3503, 3511, 3513, 3801, 4700, 5050, and 5515

Section 2081(b) and (c) of the California Fish and Game Code authorizes take of endangered, threatened, or candidate species if take is incidental to otherwise lawful activity and if specific criteria are met. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed species that are also state-listed species. In certain circumstances, Section 2080.1 of the California Fish and Game Code allows

CDFW to adopt a federal incidental take statement or a 10(a) permit as its own, based on its findings that the federal permit adequately protects the species and is consistent with state law. A Section 2081(b) permit may not authorize the take of "fully protected" species or "specified birds" (California Fish and Game Code Sections 3505, 3511, 4700, 5050, 5515, and 5517). If a project is planned in an area where a fully protected species or a specified bird occurs, an applicant must design the project to avoid take.

California Environmental Quality Act

CEQA requires identification of a project's potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. CEQA also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

Special-Status Plants and Wildlife

The CEQA Guidelines define endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors" (14 CCR 15380[b][1]). A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not currently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing as defined further in CEQA Guidelines Section 15380(c).

Special-Status Vegetation Communities

Section IV, Appendix G (Environmental Checklist Form) of the CEQA Guidelines (14 CCR 15000 et seq.) requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service."

California Fish and Game Code, Sections 1600–1616

California Fish and Game Code, Sections 1600–1616, mandates that "it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity."

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. CDFW takes jurisdiction to the top of bank of the stream or the limit of the adjacent riparian vegetation, which may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an ordinary high-water mark to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under California Fish and Game Code, Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake and Streambed Alteration Agreement and is applicable to all projects. Applications to CDFW must include a complete certified CEQA document.

Porter–Cologne Water Quality Control Act

Pursuant to provisions of the Porter–Cologne Water Quality Control Act, the RWQCB regulates discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code, Section 13260[a]). The State Water Resources Control Board defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050[e]).

2.3 Local Regulations

North County Multiple Habitat Conservation Program/City of Oceanside Subarea Plan

The North County Multiple Habitat Conservation Program (MHCP) is a long-term regional conservation program established to protect sensitive species and habitats in northern San Diego County through the MHCP Plan (SANDAG 2003). The MHCP area is divided into seven subareas, each with its own Subarea Plan; the subareas are permitted and implemented separately from one another. The City of Carlsbad is the only city under the MHCP that has an approved and permitted Subarea Plan. The City of Oceanside Subarea Plan has been prepared and is used as a guidance document for development projects in Oceanside, but the Oceanside Subarea Plan has not been approved or permitted (City of Oceanside 2010).

The overall goal of the Oceanside Subarea Plan is to contribute to regional biodiversity and the viability of rare, unique, and sensitive biological resources throughout Oceanside and the larger region while allowing public and private development to occur consistent with the City's General Plan and Capital Improvement Program. In addition, the Subarea Plan calls for the conservation of 90% to 100% of all hardline conservation areas; conservation of a minimum of 2,511 acres of existing native habitats as a biological Preserve in Oceanside; conservation of a minimum of 95% of rare and narrow endemic species populations within the Preserve and a minimum of 80% throughout the City as a whole; and restoration of a minimum of 164 acres of coastal sage scrub habitat within Oceanside, of which 145 acres will be within a wildlife corridor planning zone. Parcels within the wildlife corridor planning zone contribute to the north/south regional gnatcatcher steppingstone corridor (City of Oceanside 2010). Although the Oceanside Subarea Plan is used as a guidance document for development projects in Oceanside, the Subarea Plan has yet to be approved by the Oceanside City Council, and incidental take authority has therefore not been transferred to the City from USFWS and CDFW (the wildlife agencies).

The Oceanside Subarea Plan identifies undeveloped lands within Oceanside where conservation and management will achieve the Subarea Plan's biological goals while minimizing adverse effects on lands uses, economics, and private property rights. In addition, the Subarea Plan establishes Preserve planning zones, the existing biological

conditions and goals of which were used as foundations for their designation (City of Oceanside 2010). Brief descriptions of the Preserve planning zones are provided below (City of Oceanside 2010):

- **Wildlife Corridor Planning Zone.** The Wildlife Corridor Planning Zone extends from U.S. Marine Corps Base Camp Pendleton south to Buena Vista Creek. This zone varies in width from 1 to 2 miles along most of its length, and is centered roughly on El Camino Real and the associated San Diego Gas & Electric Company electric transmission corridor. It encompasses habitat parcels that potentially contribute to the north/south regional gnatcatcher steppingstone corridor, recognizing that existing Preserve lands north of the San Luis Rey River complete the steppingstone corridor connection to U.S. Marine Corps Base Camp Pendleton. The project study area is outside of the Wildlife Corridor Planning Zone.
- **Pre-Approved Mitigation Areas.** These areas represent land areas that have significant resource value and therefore qualify for on-site mitigation credit. Development is allowed in Pre-Approved Mitigation Areas, subject to planning guidelines to avoid, minimize, and fully mitigate impacts. The study area is not located within a Pre-Approved Mitigation Area.
- **Agricultural Exclusion Zone.** This zone includes lands north of the San Luis Rey River that are planned for agricultural uses under the Oceanside General Plan. Ongoing agricultural practices may continue in this area as long as they do not remove existing natural habitats. The project study area is located within an Agricultural Exclusion Zone.
- **Off-Site Mitigation Zone.** This zone includes all other parcels within Oceanside that support natural vegetation outside of the Wildlife Corridor Planning Zone, Agriculture Exclusion Zone, and Coastal Zone. The Off-Site Mitigation Zone includes several Pre-Approved Mitigation Areas. The project study area is located within an Off-Site Mitigation Zone and contains portions mapped as a hardline preserve area.
- **Coastal Zone.** This zone includes all areas within the City's Coastal Zone where the federal Coastal Zone Management Act and California Coastal Act policies apply. The project study area is not located within the Coastal Zone.

Portions of the project along North River Road are within the hardline preserve. Considering that this area is already developed (North River Road and agricultural production), it is likely that this is a mapping conflict associated with its proximity to the San Luis Rey River, which will need to be corrected by the City with concurrence from the Wildlife Agencies per Section 6.5.1 of the Subarea Plan.

Section 5 of the Oceanside Subarea Plan describes the minimum 100-foot biological buffer that shall be established for upland habitats, beginning at the outer edge of riparian vegetation along the San Luis Rey River. The following uses are prohibited in the 100-foot biological buffer (City of Oceanside 2010):

1. New development
2. New pedestrian and bike trails or passive recreational uses not already planned
3. Fuel modification activities for new development

Impacts within the 100-foot buffer shall be restored with native habitats appropriate to the location and soils (coastal sage scrub is typically preferred) as a condition of project approval (City of Oceanside 2010).

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3 Methods

Data regarding biological resources present within the study area were obtained through a review of pertinent literature and field reconnaissance.

3.1 Literature Review

The following data sources were reviewed to assist with the assessment of biological resources:

- CDFW California Natural Diversity Database (CDFW 2025a)
- USFWS Information for Planning and Consultation (USFWS 2025a)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2025a)
- U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2025a)
- CDFW Biogeographic Information and Observation System (CDFW 2025b)

Prior to conducting the field investigation, the California Natural Diversity Database and CNPS Inventory of Rare and Endangered Plants were queried based on the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map for Morro Hill, where the study area is located, as well as the surrounding eight USGS 7.5-minute quadrangle maps (i.e., Bonsall, Fallbrook, Temecula, San Luis Rey, San Marcos, Oceanside, Las Pulgas Canyon, and Margarita Peak). The purpose of this review was to determine whether special-status plant and wildlife species are known to occur in the vicinity of or within the study area.

Other literature reviewed included A Manual of California Vegetation, Online Edition (CNPS 2025b); the California Natural Community List (CDFW 2025c); State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2025d); State and Federally Listed Endangered and Threatened Animals of California (CDFW 2025e); and the CDFW California Wildlife Habitat Relationships Life History Accounts and Range Maps (CDFW 2025f). The following available resources were reviewed to assess the potential for jurisdictional waters: aerial photographs (Google Earth 2025; NETR 2025), the USGS Morro Hill 7.5-minute topographic quadrangle map (USGS 2018), the National Hydrography Dataset and Watershed Boundary Dataset (USGS 2025), and the USFWS National Wetlands Inventory (USFWS 2025b).

3.2 General Field Reconnaissance

Dudek biologists Josh Elson, Eilleen Salas, and Kimberly Narel conducted a general biological resources survey of the study area on January 16, 2025, and February 21, 2025. Survey conditions and times are listed in Table 1.

Table 1. Schedule of the Biological Reconnaissance Surveys

Date	Hours	Personnel	Conditions (temperature, skies, wind)
1/16/2025	0845–1430	Josh Elson, Eilleen Salas	52°F–68°F, 0%–50% cloud cover, no wind
2/21/2025	0800–1200	Kimberly Narel	60°F–72°F, 0%–100% cloud cover, 1–3 mph wind

The general biological resources surveys were conducted on foot. All plant and wildlife species encountered within the study area were identified and recorded. The potential for special-status plant and wildlife species to occur within the study area was evaluated based on the observed vegetation communities, soils present, and surrounding features. Vegetation communities and land covers on site were mapped directly in the field.

Vegetation Community and Land Cover Mapping

Vegetation communities and land covers within the survey area were mapped in the field based on general physical features and species composition. Data were recorded using the Field Maps Mobile Application over aerial base map imagery of the study area, and a geographic information system (GIS) coverage was created by Dudek GIS technicians using ArcGIS software.

The vegetation community and land cover mapping follow the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008), which is based on the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986). Communities were given additional descriptions to more accurately represent existing conditions and community composition. Vegetation communities were classified as a "disturbed" form of the community when native shrub cover comprised 20% to 50% of the relative cover and non-native species comprised approximately 50% or more of the relative cover.

Plants

All plant species encountered during the field surveys were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank (CRPR) follow the CNPS Inventory of Rare and Endangered Plants (CNPS 2025a). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2025), and common names follow the U.S. Department of Agriculture NRCS Plants Database (USDA 2025b). Potential for special-status plant species to occur within the study area was assessed based on known geographic and elevation ranges as well as habitat and soil conditions that are known to support species occurring in the region.

Wildlife

All wildlife species, as detected during the field survey—by sight, calls, tracks, scat, or other signs—were identified and recorded. Binoculars were used to aid in the identification of observed wildlife. No trapping or focused surveys for special-status species or nocturnal species were conducted. In addition to species observed, expected wildlife usage of the study area was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. Latin and common names for wildlife species referred to in this report follow Crother (2017) for reptiles and amphibians, American Ornithologists' Union Checklist (AOU 2018) for birds, Wilson and Reeder (2005) for mammals, and Moyle (2002) for fish. Potential for special-status wildlife species to occur within the study area was assessed based on known geographic ranges, the presence/absence of suitable habitat, and other natural history elements that might predict their occurrence.

3.3 Special-Status Plant and Wildlife Species Assessment

The potential for occurrence of plant and wildlife species was summarized according to the following categories. Because not all species are accommodated precisely by a given category (i.e., category definitions may be too restrictive), an expanded rationale for each category assignment is provided.

- Known to occur: The species has been documented on the property by a reliable source.
- High potential to occur: The species has not been documented on the property but is known to recently occur in the vicinity, and suitable habitat is present.
- Moderate potential to occur: The species has not been documented on the property or in the vicinity, but the site is within the known range of the species, and suitable habitat for the species is present.
- Low potential to occur: The species has not been documented in the vicinity or on the property, but the site is within the known range of the species; however, suitable habitat for the species on site is of low quality.
- Not expected to occur: The property is outside the known geographic or elevational range of the species, and/or the site does not support suitable habitat for the species.

Special-Status Plant Species

Endangered, rare, or threatened plant species as defined in CEQA Guidelines Section 15380(b) (14 CCR 15380[b]) are referred to as "special-status plant species" and, as used in this report, include (1) plant species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of CESA and FESA (CDFW 2025d); and/or (2) plant species with a CRPR 1 or 2 as designated by CNPS (2025a). Species with CRPR 3 or 4 generally do not qualify for protection under CEQA and are therefore analyzed in this report. Species listed on the Oceanside Subarea Plan Proposed Covered Species list (City of Oceanside 2010) are also considered special-status in this analysis.

For each special-status plant species known to occur in the vicinity of or within the study area, a determination was made regarding the potential for the species to occur within the study area based on site-specific information gathered during the field reconnaissance, such as the location of the site, vegetation communities and soils present, current site conditions, and each species' known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period.

Special-Status Wildlife Species

Endangered, rare, or threatened wildlife species as defined in CEQA Guidelines Section 15380(b) (14 CCR 15380[b]), are referred to as "special-status wildlife species" and, as used in this report, include (1) wildlife species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of CESA and FESA (CDFW 2025e); (2) California Species of Special Concern (SSC) as designated by CDFW (2025g); and (3) mammals and birds that are fully protected species as described in the California Fish and Game Code, Sections 4700 and 3511 (CDFW 2025h). Species listed on the Oceanside Subarea Plan Proposed Covered Species list (City of Oceanside 2010) are also considered special-status in this analysis.

For each special-status wildlife species listed, a determination was made regarding potential use within the study area based on site-specific information gathered during the field reconnaissance, such as the location of the site, vegetation communities and soils present, current site conditions, and each species' known range and habitat preferences, as well as knowledge of the species' relative distributions in the area.

4 Environmental Setting

The study area is located within the City of Oceanside in San Diego County, bordered by the City of Vista to the south, and unincorporated areas of San Diego County to the north and west. The following describes the existing abiotic conditions of the proposed project site and surrounding area.

4.1 Land Use

The study area is a low-density, semi-rural area of the City, which is designated as Agriculture in the City's General Plan and zoned as Agriculture. Small-scale agricultural operations and residences are present to the north, west, and east of the study area. The San Luis Rey River runs parallel to North River Road to its south and forms the southern portion of the study area. Mission Vista High School is south of the study area, abutting the San Luis Rey River on its other side. Several churches and Melba Bishop Park are present approximately 1.25 miles to the west of the study area (Google Earth 2025; NETR 2025).

4.2 Climate

The project region has a Mediterranean climate with cool, wet winters and hot, dry summers. On average, August is the warmest month with an average high temperature of 83°F, and January is the coolest month on average with a low of 44°F. Rainfall occurs primarily between November through April, with the maximum average precipitation occurring in January. The mean annual rainfall for the region is approximately 13.1 inches of rain per year (WRCC 2025).

4.3 Topography

The topography within the study area slopes downhill from north to south toward the San Luis Rey River. Elevations in the southern portion of the study area range from 130 feet above mean sea level (amsl) to 110 feet amsl, and elevations in the northern portion of the study area range from 220 feet amsl to 284 feet amsl (USGS 2018; Google Earth 2025).

4.4 Soils

According to the U.S. Department of Agriculture NRCS Web Soil Survey (USDA 2025a), nine soil mapping units occur within the study area: Bonsall sandy loam, 9% to 15% slopes, eroded; Cieneba coarse sandy loam, 5% to 15% slopes, eroded; Cieneba coarse sandy loam, 15% to 30% slopes, eroded; Cieneba-rock outcrop complex, 30% to 75% slopes, very stony; Fallbrook sandy loam, 9% to 15% slopes, eroded; Placentia sandy loam, 5% to 9% slopes, eroded; Tujunga sands, 0% to 5% slopes, eroded; Visalia sandy loam, 2% to 5% slopes; Vista coarse sandy loam, 15% to 30% slopes, eroded; Riverwash, and Steep gullied land (Figure 3, Soils). Soil series are described by the NRCS as follows (USDA 2025a):

> **Bonsall Series.** The soils of the Bonsall series occur on gentle to moderate slopes in concave positions at elevations of 200 to 2,500 feet and formed in residuum weathered from granite or granodiorite. They are moderately well-drained soils, with slow to medium runoff and very slow permeability.

Cieneba Series. The soils of the Cieneba series occur on hills and mountains and formed in material weathered from granitic rock. They are somewhat excessively drained soils, with low to high runoff and moderately rapid permeability.

Fallbrook Series. The soils of the Fallbrook series occur on rolling hills and formed in material weathered from granitic rocks. They are well drained, with medium to very rapid runoff and moderately slow permeability,

Placentia Series. The soils of the Placentia series occur on fans and terraces and formed in alluvium from granite and other rocks of similar composition and texture. They are well to moderately well drained, with slow to rapid runoff and very slow permeability.

Tujunga Series. The soils of the Tujunga series occur on alluvial fans and floodplains and formed in alluvium from granitic sources. They are somewhat excessively drained, with negligible to low runoff.

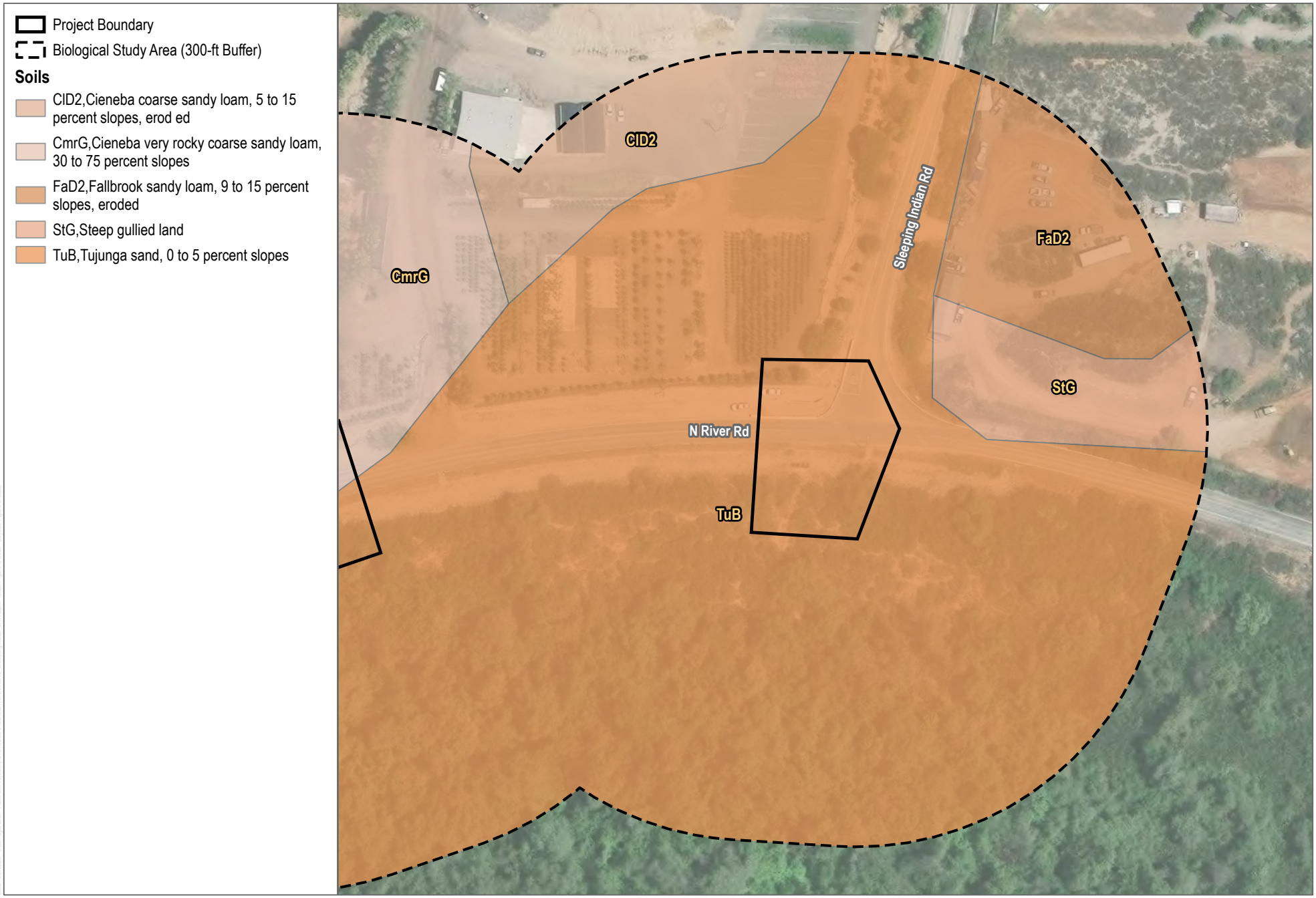
Visalia Series. The soils of the Visalia series are somewhat poorly drained and are not hydric.

Vista Series. The soils of the Vista series occur on hills and mountainous uplands and formed in material weathered from decomposed granitic rocks. They are well drained, with slow to rapid runoff and moderately rapid permeability.

Riverwash. Riverwash consists of alluvial sediment transported within a drainage channel.

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SOURCE: Esri World Imagery; Open Street Map 2023

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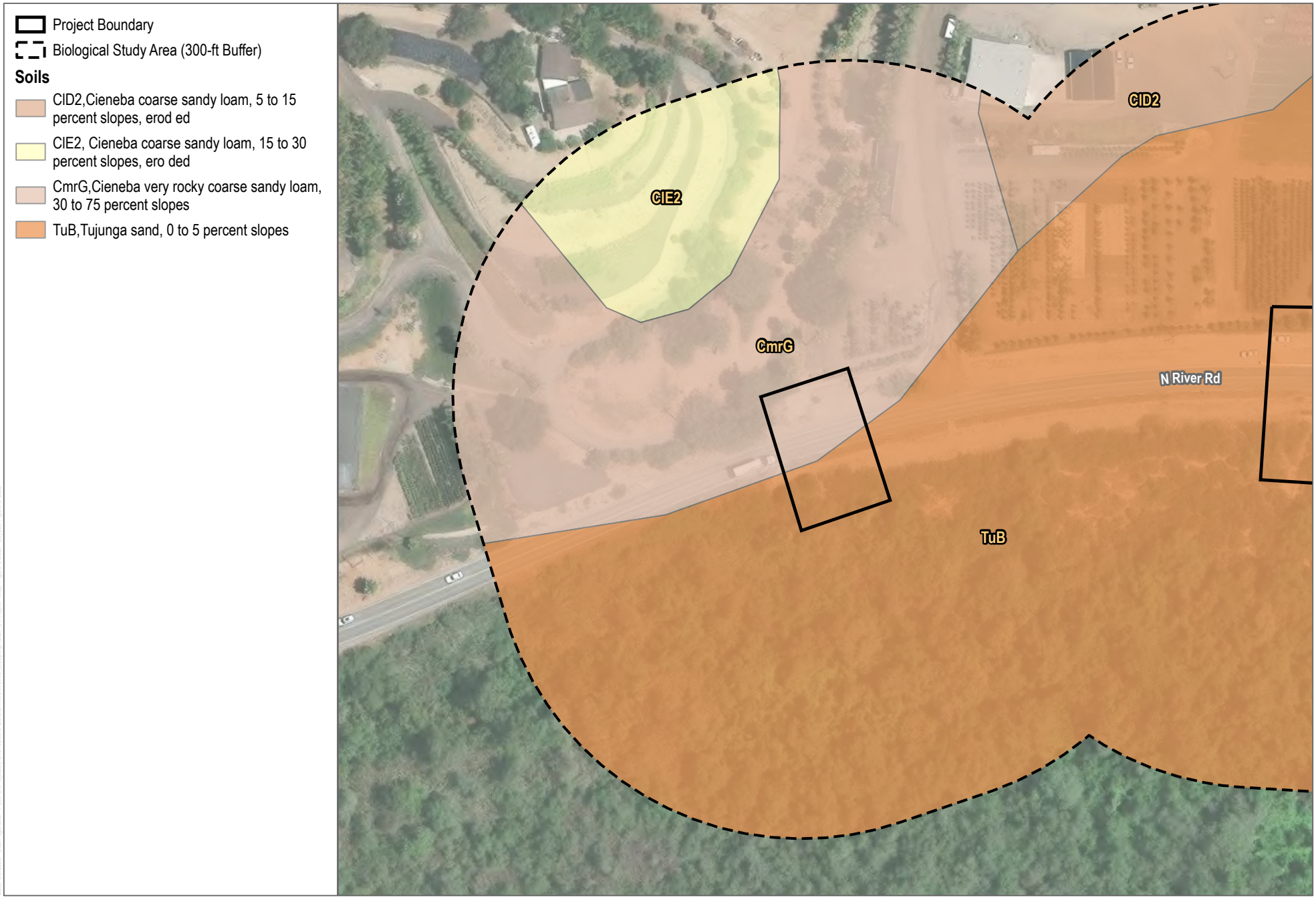
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FIGURE 3b

Soils - Culvert #2

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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SOURCE: Esri World Imagery; Open Street Map 2023

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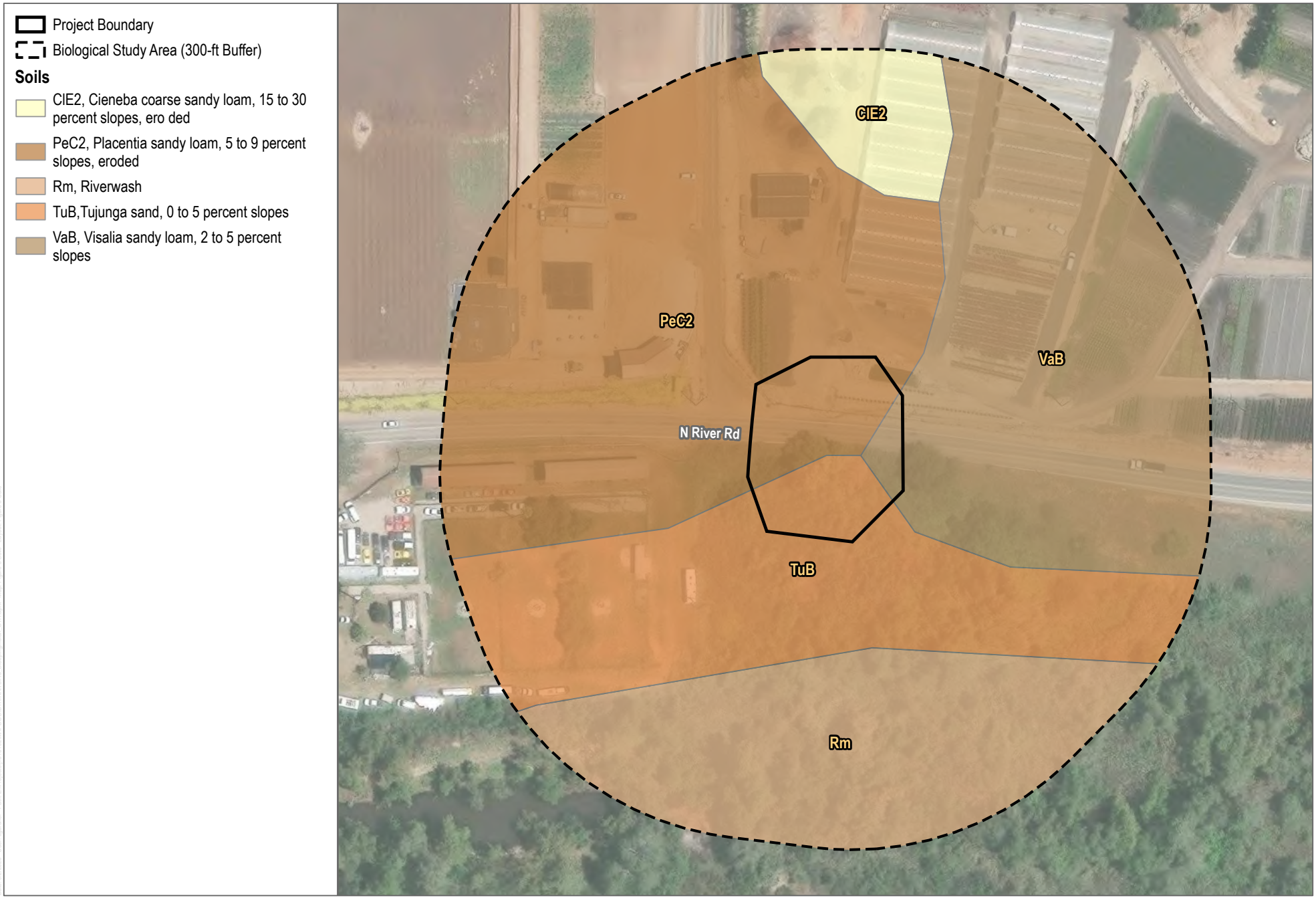
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FIGURE 3c

Soils - Culvert #3

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 3d

Soils - Culvert #4

North River Rd and Sleeping Indian Rd Drainage Improvements Project

5 Results

Representative photos of the study area and the biological resources described in this chapter are included in Appendix A.

5.1 Vegetation Communities and Land Covers

A total of seven vegetation communities and four land cover types were mapped in the study area during the surveys. These vegetation communities and land cover types are described below, their acreages are presented in Table 2, and their spatial distributions are presented in Figure 4, Vegetation Communities and Land Covers.

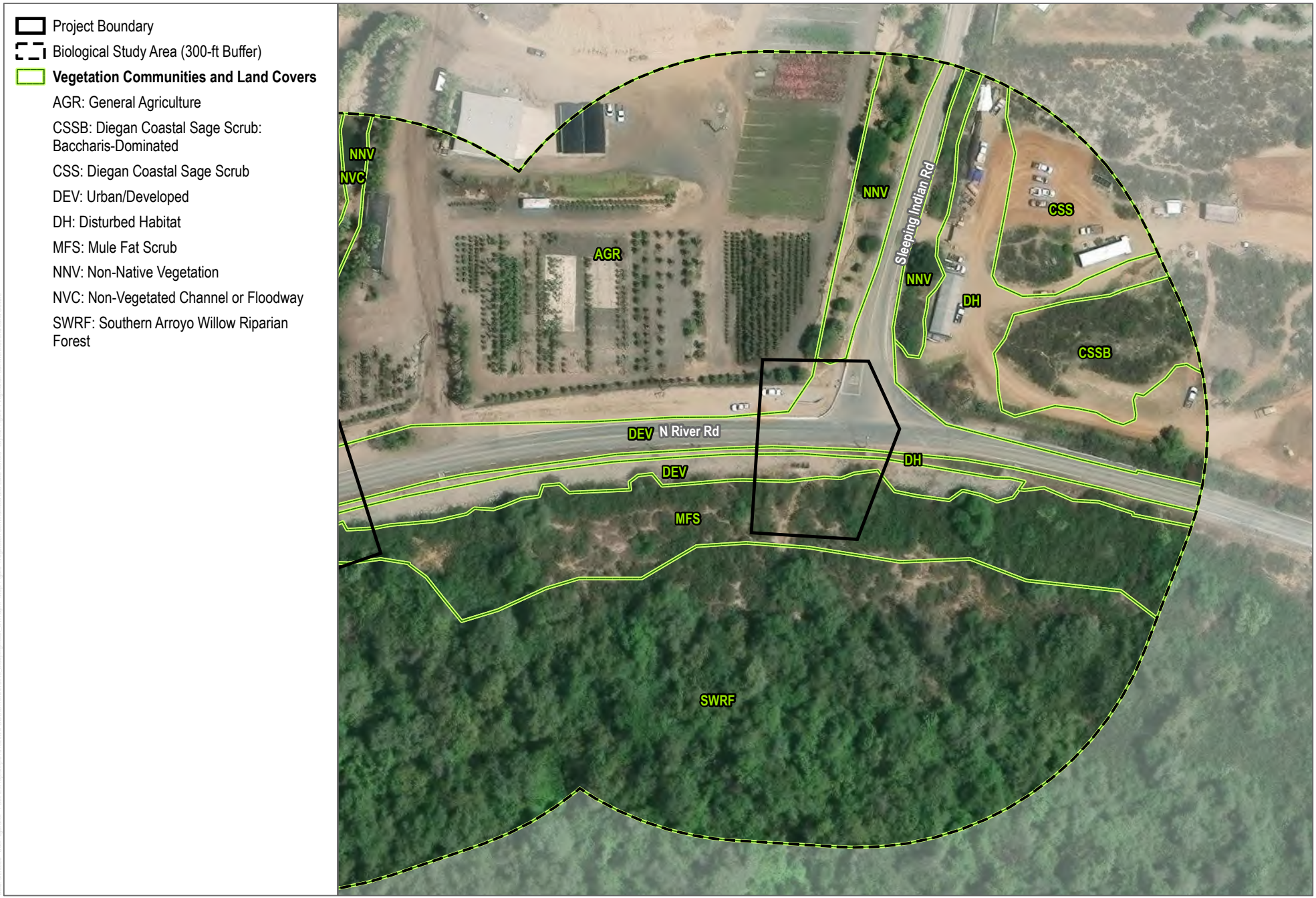
Table 2. Vegetation Communities and Land Covers

Habitat Types/ Vegetation Communities	Mapping Unit Code	Project Site Acreage	Study Area Acreage	Total Acreage
Non-Native Grassland: Broadleaf Dominated	*42210*	0.02	4.53	4.55
Southern Arroyo Willow Riparian Forest	*61320*	0.01	7.87	7.88
Southern Riparian Scrub	*63000*	0.00	0.83	0.83
Mulefat Scrub	*63310*	0.44	2.01	2.45
Arundo-Dominated Riparian	*65100*	0.00	0.66	0.66
Non-Native Riparian	*65000*	0.11	0.19	0.3
Diegan Coastal Sage Scrub	*32500*	0.00	1.40	1.4
Diegan Coastal Sage Scrub: Baccharis-Dominated	*32530*	0.00	0.44	0.44
Non-Vegetated Channel or Floodway	*64200*	0.00	0.19	0.19
			Subtotal:	*18.7*
Developed or Disturbed Land Covers				
Disturbed Habitat	*11300*	0.09	1.93	2.02
Non-Native Vegetation	*11000*	0.03	2.32	2.35
Urban/Developed	*12000*	0.58	3.86	4.44
General Agriculture	*18000*	0.27	11.12	11.39
			Subtotal:	*20.2*
			Total:	**38.9**

Source: Oberbauer et al. 2008.
Note: Totals may not add up due to rounding.

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SOURCE: Esri World Imagery; Open Street Map 2023

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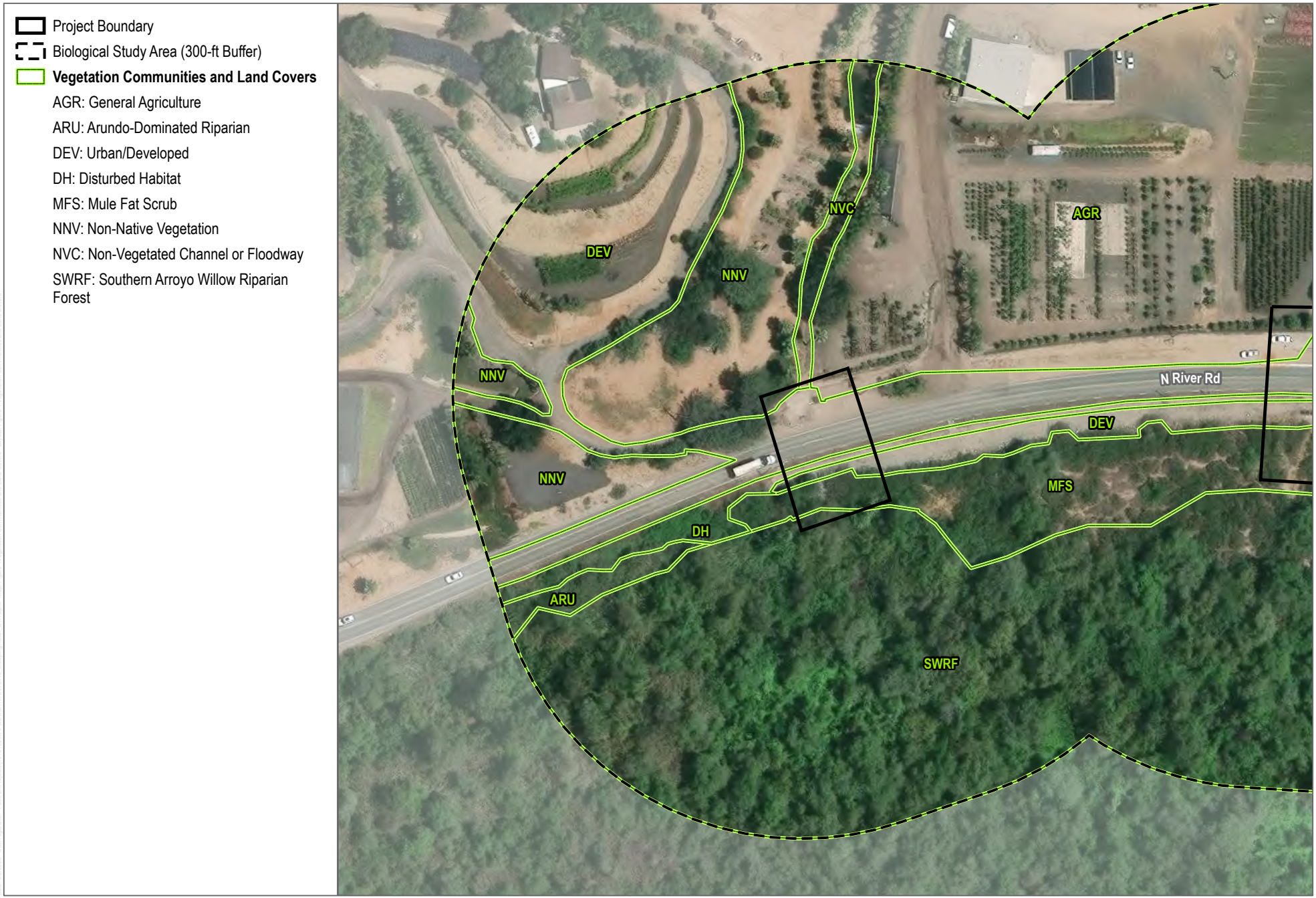
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FIGURE 4b

Vegetation Communities and Land Covers - Culvert #2

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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SOURCE: Esri World Imagery; Open Street Map 2023

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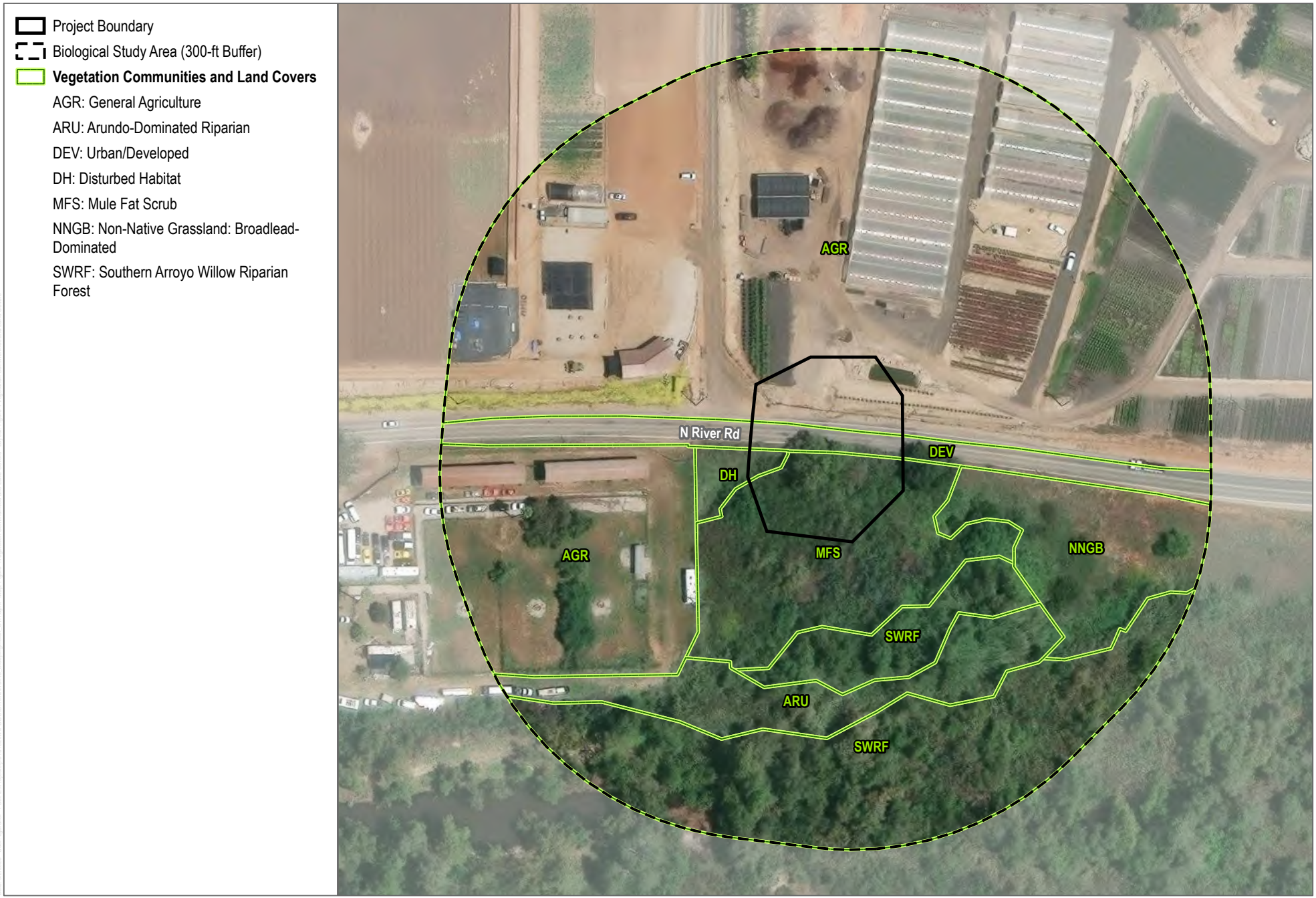
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FIGURE 4c

Vegetation Communities and Land Covers - Culvert #3

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 4d

Vegetation Communities and Land Covers - Culvert #4

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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5.1.1 Vegetation Communities

Non-Native Grassland: Broadleaf-Dominated (42210)

Non-native grassland: broadleaf-dominated is not recognized by Holland (1986) but is recognized by Oberbauer et al. (2008). According to Oberbauer et al. (2008), this subcategory of non-native grassland applies to areas in which previous disturbance or presence of a nearby seed source has caused one or multiple invasive, non-native broadleaf species to make up over 50% of the vegetative cover. This is a common vegetation community in northern San Diego County in disturbed areas. Characteristic species include but are not limited to black mustard (*Brassica nigra*), shortpod mustard (*Hirschfeldia incana*), fennel (*Foeniculum vulgare*), and knapweeds (*Centaurea* spp.) (Oberbauer et al. 2008).

This vegetation community was mapped in the southwestern portion of the study area, south of North River Road. Associated species observed within this community included fennel, shortpod mustard, and Canada horseweed (*Erigeron canadensis*).

Non-native grassland is within the Habitat Group E of the City of Oceanside HCP/Natural Community Conservation Plan (NCCP) and mitigation is required for impacts to this vegetation community.

Southern Arroyo Willow Riparian Forest (61320)

Southern arroyo willow riparian forest is a winter-deciduous riparian forest dominated by broad-leafed trees and arroyo willow (*Salix lasiolepis*). Typically, it consists of a moderately tall, closed, or nearly closed canopy, with an understory of shrubby willows (Oberbauer et al. 2008). Southern arroyo willow riparian forest is characterized by the presence of several species besides arroyo willow, including San Diego sagewort (*Artemisia palmeri*), mulefat (*Baccharis salicifolia*), manroot (*Marah macrocarpus*), California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), Goodding's willow (*Salix gooddingii*), narrowleaf willow (*Salix exigua*), and yellow willow (*Salix lasiandra*) (Oberbauer et al. 2008). Southern arroyo willow riparian forest occurs in sub-irrigated and frequently overflowed areas along rivers and streams that are perennially wet (Oberbauer et al. 2008).

Within the study area, southern arroyo willow riparian forest occur in the San Luis Rey River riparian corridor in the southern portion of the study area. Associated species observed within this community in the field included mulefat and fennel.

Southern arroyo willow riparian forest is within the Habitat Group A of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community.

Southern Riparian Scrub (63000)

Southern riparian scrub typically occurs along major river systems and is characterized by riparian vegetation consisting of smaller trees and shrubs, without or with few tall trees (Oberbauer et al. 2008). Species usually associated with this vegetation community include broom baccharis (*Baccharis sarothroides*), arroyo willow, and other willow trees (Oberbauer et al. 2008).

Within the study area, southern riparian scrub occurs in the drainage crossing under Sleeping Indian Road, on the south side of the road Associated species include blue elderberry (*Sambucus mexicana*), laurel sumac (*Malosma laurina*), arroyo willow, mulefat, castor bean (*Ricinus communis*), and Mexican fan palm (*Washingtonia robusta*).

Southern riparian scrub is within the Habitat Group A of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community

Mulefat Scrub (63310)

Mulefat scrub is a depauperate, tall, herbaceous riparian scrub strongly dominated by mulefat. This early seral community is maintained by frequent flooding. Site factors include intermittent stream channels with fairly coarse substrate and moderate depth to the water table (Oberbauer et al. 2008). This community type is widely scattered along intermittent streams and near larger rivers.

Within the study area, mulefat scrub occurs in the San Luis Rey River riparian corridor, on the south side of North River Road.

Mulefat scrub is within the Habitat Group A of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community.

Arundo-dominated Riparian (65100)

Arundo-dominated riparian vegetation community is composed of monotypic or nearly monotypic stands of giant reed (*Arundo donax*) that are fairly widespread in Southern California. Typically, it occurs on moist soils and in streambeds and may be related directly to soil disturbance or the introduction of propagates by grading or flooding. Mapped occurrences may include surrounding native trees. Giant reed often occupies jurisdictional wetlands.

This vegetation community is present within the southern portion of the study area, interspersed within the other riparian vegetation communities of the San Luis Rey River corridor. This vegetation community is not considered a special-status community in the City of Oceanside HCP/NCCP, and no mitigation is required for impacts to this vegetation community.

Diegan Coastal Sage Scrub (32500)

Diegan coastal sage scrub is a native vegetation community. According to Oberbauer et al. (2008), coastal sage scrub is composed of a variety of soft, low, aromatic shrubs, characteristically dominated by drought-deciduous species—such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and sages (*Salvia* spp.)—with scattered evergreen shrubs, including lemonadeberry (*Rhus integrifolia*) and laurel sumac.

On site, Diegan coastal sage scrub occurs on the northeast-facing slopes in the northern portion of the study area, west of Sleeping Indian Road. Associated species observed within this alliance in the field included broom baccharis, toyon (*Heteromeles arbutifolia*), and deerweed (*Acmispon glaber*).

Diegan coastal sage scrub is within the Habitat Group C of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community.

Diegan Coastal Sage Scrub: Baccharis-Dominated (32500)

Baccharis-dominated Diegan coastal sage scrub is similar to Diegan coastal sage scrub but dominated by *Baccharis* species (desert broom [*B. sarothroides*] and/or coyote brush [*B. pilularis*]) (Oberbauer et al. 2008). This community typically occurs on disturbed sites or those with nutrient-poor soils and is often found within other forms of Diegan coastal sage scrub and on upper terraces of river valleys.

On site, Baccharis-dominated Diegan coastal sage scrub occurs on the slopes north of North River Road in the eastern portion of the study area. Associated species observed within this community in the field included California sagebrush and California buckwheat.

Diegan coastal sage scrub is within the Habitat Group C of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community.

Non-Native Riparian (32500)

Non-native riparian habitat consists of densely vegetated riparian thickets dominated by non-native, invasive species. Non-native, invasive species account for greater than 50% of the total vegetative cover within a mapping unit (Oberbauer et al. 2008). Characteristic species include giant reed, tamarisk (*Tamarix* spp.), *Eucalyptus* spp., palms (*Phoenix* spp. and *Washingtonia* spp.), castor bean, and pampas grass (*Cortaderia* spp.).

On site, non-native riparian occurs within the drainage on the south side of Sleeping Indian Road. Associated species within this community include castor bean and eucalyptus.

This vegetation community is not considered a special-status community in the City of Oceanside HCP/NCCP and no mitigation is required for impacts to this vegetation community.

Non-Vegetated Floodplain or Channel (64200)

Non-vegetated floodplain or channel is not recognized by Holland (1986) but is recognized by Oberbauer et al. (2008). According to Oberbauer et al. (2008), non-vegetated floodplain or channel is the sandy, gravelly, or rocky fringe of waterways or flood channels that is unvegetated on a relatively permanent basis. Vegetation may be present but is usually less than 10% total cover and grows on the outer edge of the channel.

This land cover is present in the form of a sandy channel passing through an agricultural operation north of North River Road, in the central portion of the study area.

Non-vegetated channel is within the Habitat Group A of the City of Oceanside HCP/NCCP and is considered a special-status vegetation community. As such mitigation is required for impacts to this vegetation community

5.1.2 Disturbed and Developed Land Cover Types

Disturbed Habitat (11300)

Disturbed habitat is described as areas generally lacking vegetation due to high levels of existing or historical human disturbance and are no longer recognizable as a native or naturalized vegetation association. Areas mapped

as disturbed habitat may include unpaved roads, trails, and graded areas (Oberbauer et al. 2008). Vegetation in these areas, if present at all, is usually sparse and dominated by non-native weedy herbaceous species (Oberbauer et al. 2008). Areas mapped as disturbed habitat within the study area were present in the form of dirt roads, and mowed areas, and compacted dirt turnouts adjacent to Sleeping Indian Road and North River Road.

Non-native Vegetation (11000)

Non-native vegetation includes trees, shrubs, and herbs that are not native to California. Non-native vegetation within the study area largely consists of ornamental plantings along roadways or in landscaped areas of the various agricultural operations.

Urban/Developed (11200)

This mapping unit is described as areas supporting human-made structures, including homes, yards, sidewalks, and other highly modified lands supporting structures associated with dwellings or other permanent structures. Vegetation in these areas, if present at all, is typically associated with ornamental landscaping that has been included in the development footprint (Oberbauer et al. 2008). Developed lands in the study area include the asphalt roadways of North River Road and Sleeping Indian Road, the concrete basins associated with the culvert inlets adjacent to the roadways, and a riprap berm placed along the south side of North River Road.

General Agriculture (18000)

This mapping unit is described as lands supporting an active agricultural operation. This land cover is present within the study area in the form of nursery operations and row crops.

5.2 Plants

A list of plant and wildlife species observed during the biological reconnaissance survey is included in Appendix B, Plant and Wildlife Compendia. Of the 20 plant species observed, 55% were native species and 45% were non-native species. The survey was conducted outside of the typical blooming period for most herbaceous annual species, and it is expected that a greater number of common species would be detected during the blooming period.

5.2.1 Special-Status Plant Species

Appendix C, Assessment of Special-Status Plant Species Potentially Occurring in the Study Area, lists special-status plant species that are known to occur in the in the USGS 7.5-minute Morro Hill quadrangle and the surrounding eight USGS 7.5-minute quadrangles or that are included within the USFWS Information for Planning and Consultation list generated for the study area (CDFW 2025a; CNPS 2025a; USFWS 2025a). The assessment for occurrence resulted in 28 special-status species having a moderate potential to occur in the study area (see Appendix C). However, these species were deemed as having potential to occur due to the presence of coastal sage scrub habitat within the study area. The project footprint does not include any coastal sage scrub vegetation within its boundaries, and as such, no special-status plant species are expected to occur within it. Therefore, it is not anticipated that there will be any direct impacts to these special-status plant species and they are not discussed further. One federally and state-listed endangered species, Nevin's barberry (*Berberis nevinii*), was determined to

have a low potential to occur in the study area but is not expected to occur in the project area. Therefore, it is not anticipated that there will be any direct impacts to this species and it is not discussed further.

5.3 Wildlife

There were 13 wildlife species recorded within the project site during the biological reconnaissance survey, which can be found in Appendix B. All of the species recorded were birds; the study area does contain suitable nesting bird habitat. No amphibian species were observed and no reptile species were observed during the survey; however, western fence lizard (*Sceloporus occidentalis*) is a common reptile species that could occur within the study area. No mammal species were observed during the survey; however, common species such as California ground squirrel (*Otospermophilus beecheyi*) and coyote (*Canis latrans*) would be expected to occur within the study area and its surroundings.

5.3.1 Special-Status Wildlife Species

Appendix D, Assessment of Special-Status Wildlife Species Potentially Occurring in the Study Area, lists special-status wildlife species that are known to occur in the USGS 7.5-minute Morro Hill quadrangle and the surrounding eight USGS 7.5-minute quadrangles, as well as wildlife species included within the USFWS Information for Planning and Consultation list generated for the study area (CDFW 2025f; CNPS 2025a; USFWS 2025a).

No special-status wildlife species were observed foraging during the biological reconnaissance survey. The assessment for occurrence resulted in 14 special-status species having a moderate to high potential to occur within the study area, and three federally or state-listed species with a low potential to occur, as shown in Table 3. Critical habitat for least Bell's vireo (*Vireo bellii pusillus*), arroyo toad (*Anaxyrus californicus*), and southwestern willow flycatcher (*Empidonax traillii extimus*) has been designated within the San Luis Rey River riparian corridor in the southern portion of the study area (USFWS 2025a).

All of the special-status wildlife species determined to have moderate to high potential to occur, or low potential to occur but are included in the discussion due to being federally or state-listed, have potential to occur within either coastal sage scrub habitat or riparian habitat areas. No coastal sage scrub habitat will be directly impacted by the project, and as such, it is not anticipated that there will be direct impacts to special-status wildlife species associated with this habitat. The project has the potential to directly impact special-status bird species associated with riparian habitats, as well as the potential to indirectly impact bird species associated with coastal sage scrub habitat. These species are discussed in further detail below.

Table 3. Special-Status Wildlife Species with a Moderate to High Potential to Occur in the Study Area and Listed Species with a Low Potential to Occur

Scientific Name	Common Name	Status (Federal/ State)[1]	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	San Diego MHCP Oceanside Subarea	Potential to Occur[2]
Reptiles					
Actinemys pallida	southwestern pond turtle	FPT/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Covered	High potential to occur. Suitable habitat is present within the San Luis Rey River corridor in the southern part of the study area.
Thamnophis sirtalis ssp.	south coast garter snake	None/SSC	Marsh and upland habitats near permanent water and riparian vegetation	None	High potential to occur. Suitable habitat is present within the San Luis Rey River corridor in the southern part of the study area.
Birds					
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Covered	High potential to occur. Suitable nesting and foraging habitat is present within the San Luis Rey River corridor in the southern part of the study area.
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	None	Low potential to occur. Marginal nesting habitat is present within riparian scrub in the study area.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Covered	Moderate potential to occur. Suitable coastal sage scrub habitat is present within the study area.

Table 3. Special-Status Wildlife Species with a Moderate to High Potential to Occur in the Study Area and Listed Species with a Low Potential to Occur

Scientific Name	Common Name	Status (Federal/ State)[1]	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	San Diego MHCP Oceanside Subarea	Potential to Occur[2]
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	None	Moderate potential to occur. Suitable riparian habitat is present and the species was documented approximately 5.25 miles to the northwest within the San Luis Rey River riparian corridor in 2011 (CDFW 2025a).
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Covered	High potential to occur. Suitable nesting habitat and USFWS designated critical habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented less than 0.25 miles from the study area in 2008 (CDFW 2025a).
Icteria virens (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	Covered	High potential to occur. Suitable nesting habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented within the study area in 2003 (CDFW 2025a).
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids	Covered	Low potential to occur. While coastal sage scrub habitat is present, it is marginal and isolated from larger blocks of continuous habitat

Table 3. Special-Status Wildlife Species with a Moderate to High Potential to Occur in the Study Area and Listed Species with a Low Potential to Occur

Scientific Name	Common Name	Status (Federal/ State)[1]	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	San Diego MHCP Oceanside Subarea	Potential to Occur[2]
			nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level		needed by this species. CNDDB records are present within the vicinity of the study area, but are generally from over 20 years ago and appear to be documented before these areas were developed (CDFW 2025a).
Setophaga petechia (nesting)	yellow warbler	None/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	None	Moderate potential to occur. Suitable nesting habitat is present and species was documented within study area in 2003 (CDFW 2025a).
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Covered	High potential to occur. USFWS designated critical habitat (USFWS 2025a) is present within the study area and the species was documented within the study area in 2013 (CDFW 2025a).
Mammals					
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	None	Moderate potential to occur. Trees and man-made structures for roosting are present within the study area. However, no trees or structures are expected to be felled within the project area.
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas;	None	Moderate potential to occur. Trees and man-made structures for roosting, as well as riparian habitat, are present within the

Table 3. Special-Status Wildlife Species with a Moderate to High Potential to Occur in the Study Area and Listed Species with a Low Potential to Occur

Scientific Name	Common Name	Status (Federal/ State)[1]	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	San Diego MHCP Oceanside Subarea	Potential to Occur[2]
			roosts in limestone caves and lava tubes, man-made structures, and tunnels		study area. However, no trees or roosting structures are expected to be felled within the project area.
Dipodomys stephensi	Stephens' kangaroo rat	FT/ST	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas	Covered	Low potential to occur. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	None	Moderate potential to occur. Trees and man-made structures for roosting are present within the study area. However, no trees or roosting structures are expected to be felled within the project area.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/ None	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Covered	Moderate potential to occur. Suitable habitat is present within the study area.
Invertebrates					
Bombus crotchii	Crotch's bumble bee	None/SCE	Open grassland and scrub communities supporting suitable floral resources.	None	Moderate potential to occur. Suitable foraging habitat is present within the study area.

Notes: CNDDB = California Natural Diversity Database.

[1] **Status Designations**

Federal

BCC: USFWS Bird of Conservation Concern

FPT: Federally proposed for listing as threatened

FT: Federally listed as threatened

State

SCE: State candidate for listing as endangered

SE: State listed as endangered

SSC: California Species of Special Concern (CDFW 2025f)
ST: State listed as threatened
WL: CDFW Watch List species

Cooper's Hawk

Cooper's hawk is a CDFW Watch List species and a covered species under the North County MHCP/Oceanside Subarea Plan. It occurs in areas with dense stands of live oak, riparian habitat, or other forest habitats near water.

This bird is relatively common year-round in the Project vicinity, and suitable nesting habitat exists within the San Luis Rey River riparian corridor where it passes through the study area. This species has a high potential to occur within the riparian habitat of the study area.

Southern California Rufous-Crowned Sparrow

Southern California rufous-crowned sparrow is a CDFW Watch List species and a covered species North County MHCP/Oceanside Subarea Plan. It is a species that occupies moderate to steep hillsides that are rocky, grassy, or covered by coastal scrub or chaparral. This species is not expected to occur within the project impact area but has a moderate potential to occur within the coastal sage scrub habitat in the study area.

Western Yellow-Billed Cuckoo

Western yellow-billed cuckoo is listed as a federally threatened and state endangered species. It is a species that nests in dense, wide riparian woodlands and forest with well-developed understories. Potentially suitable habitat is present for this species within the San Luis Rey River riparian corridor in the southern part of the study area, and it was documented within the San Luis Rey River approximately 5 miles upstream in 2011. This species has a moderate potential to occur within the riparian vegetation in the study area.

Southwestern Willow Flycatcher

Southwestern willow flycatcher is listed as both state- and federally endangered and a covered species under the North County MHCP/Oceanside Subarea Plan. Southwestern willow flycatcher is a riparian-obligate species restricted to complex streamside vegetation. Suitable nesting habitat is present for this species within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented less than 0.25 miles from the study area in 2008. USFWS-designated Critical Habitat for the species is present within the San Luis Rey River corridor within the study area. This species has a high potential to occur within the riparian vegetation in the study area.

Yellow-Breasted Chat

Yellow-breasted chat is a California Species of Special Concern for nesting and a covered species under the North County MHCP/Oceanside Subarea Plan. In California, it is associated with early successional riparian thickets and riparian woodlands with a dense understory for nesting. Suitable nesting habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area. This species has a high potential to occur within the riparian vegetation in the study area.

Yellow Warbler

Yellow warbler is a California Species of Special Concern. It breeds commonly in riparian thickets and woodlands in the region. Suitable nesting habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area. This species has a moderate potential to occur within the riparian vegetation in the study area.

Least Bell's Vireo

Least Bell's vireo is listed as both a state- and federally endangered species and a covered species under the North County MHCP/Oceanside Subarea Plan. Least Bell's vireo nesting habitats in cismontane and coastal areas include southern willow scrub, mulefat scrub, arroyo willow riparian forest edge, wild blackberry thickets, and, more rarely, cottonwood forest, sycamore alluvial woodland, and southern coast live oak riparian forest. Suitable nesting habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area. Furthermore, this species was documented within the study area in 2013, and USFWS-designated Critical Habitat for this species overlaps the study area. As such, there is high potential for this species to occur within the study area.

Tricolored Blackbird

Tricolored blackbird is listed as a state threatened species and is a USFWS Bird of Conservation Concern and CDFW Species of Special Concern. Tricolored blackbird usually breeds in freshwater marshes with dense growths of vegetation dominated by cattails or bulrushes, but breeding colonies also occur in willows, blackberries, thistles, and nettles. Marginal nesting habitat is present within the riparian scrub of the study area, and this species has a low potential to occur there.

Coastal California Gnatcatcher

Coastal California gnatcatcher is federally listed as threatened, a California Species of Special Concern and a covered species under the North County MHCP/Oceanside Subarea Plan. Coastal California gnatcatcher generally prefers open sage scrub habitats with California sagebrush as a dominant or co-dominant species. Nest placement is typically in areas with less than 40% slope gradient (Mock 2004).

While coastal sage scrub habitat is present, it is marginal and isolated from larger blocks of continuous habitat needed by this species. California Natural Diversity Database records are present within the vicinity of the study area but are from over 20 years ago and appear to be documented before these areas were developed. Therefore, this species has a low potential to occur within coastal sage scrub vegetation in the study area.

5.3.2 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Corridors can also be aquatic resources that provide passage for fish. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as steppingstones for wildlife dispersal.

On a regional level, the study area does not occur within any designated wildlife corridors or habitat linkages identified in the South Coast Missing Linkages analysis conducted by South Coast Wildlands (2008) or CDFW's

California Essential Habitat Connectivity Project (Spencer et al. 2010), as shown in the CDFW Biogeographic Information and Observation System (CDFW 2025b).

The San Luis Rey River Valley is identified as a hardline Preserve in the Oceanside Subarea Plan as well as the MHCP to allow for east-west wildlife movement. Wildlife movement, including fish, could occur in the riparian corridor associated with the San Luis Rey River, which is present within the southern portion of the study area. However, only a very small portion of the project site is associated with natural habitats within the San Luis Rey River (0.08 acres of mulefat scrub). Additionally, this impacted portion of the San Luis Rey River is located on the outer edge of the river channel directly adjacent to North River Road and it is anticipated that wildlife using this corridor would easily be able to avoid this small area by moving farther into the riparian vegetation present.

On a local level, the study area does not have any portions of the San Luis Rey River that would provide fish passage. The study area only contains riparian habitat associated with the San Luis Rey River.

5.4 Jurisdictional Wetlands and Waters

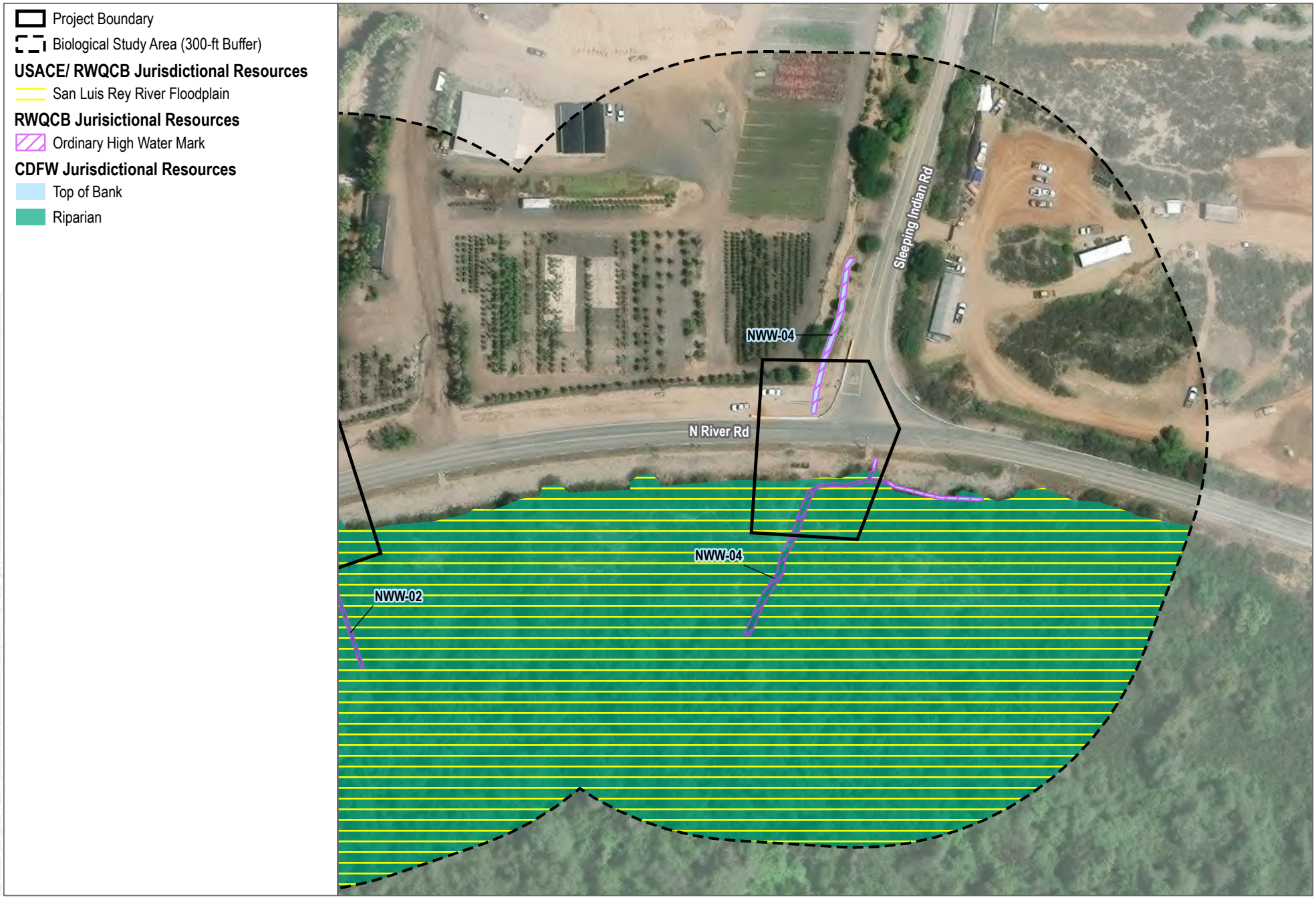
A formal jurisdictional delineation was conducted and results are included in Appendix E, Aquatic Resources Delineation Report. Five potential jurisdictional resources were identified within the project site during the aquatic resources delineation survey (Figure 5). Tables 4, 5, and 6 below outline potential RWQCB, CDFW, and USACE jurisdictional resources. Acreages presented in Tables 4 and 5 were calculated based on the project footprint plus a 100-foot buffer study area used for the delineation.

Table 4. RWQCB Aquatic Resource Summary for the Study Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Acreage/Linear Feet[1]
Non-Wetland Waters		
NWW-01	33.25909561, -117.2703598	0.01/373
NWW-02	33.25960771, -117.2657312	0.01/275
NWW-03[2]	33.25964266, -117.2659161	0.00/0
NWW-04	33.2599545, -117.2641418	0.03/503
NWW-05	33.26893324, -117.2631853	0.03/305
San Luis Rey River	33.259889, -117.264282	2.60/2,021
	Total	**2.68/3,630**

Notes: RWQCB = Regional Water Quality Control Board; NWW = non-wetland water.
1 Totals may not sum due to rounding.
2 NWW-03 is contiguous with the San Luis Rey River.

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SOURCE: Esri World Imagery; Open Street Map 2023

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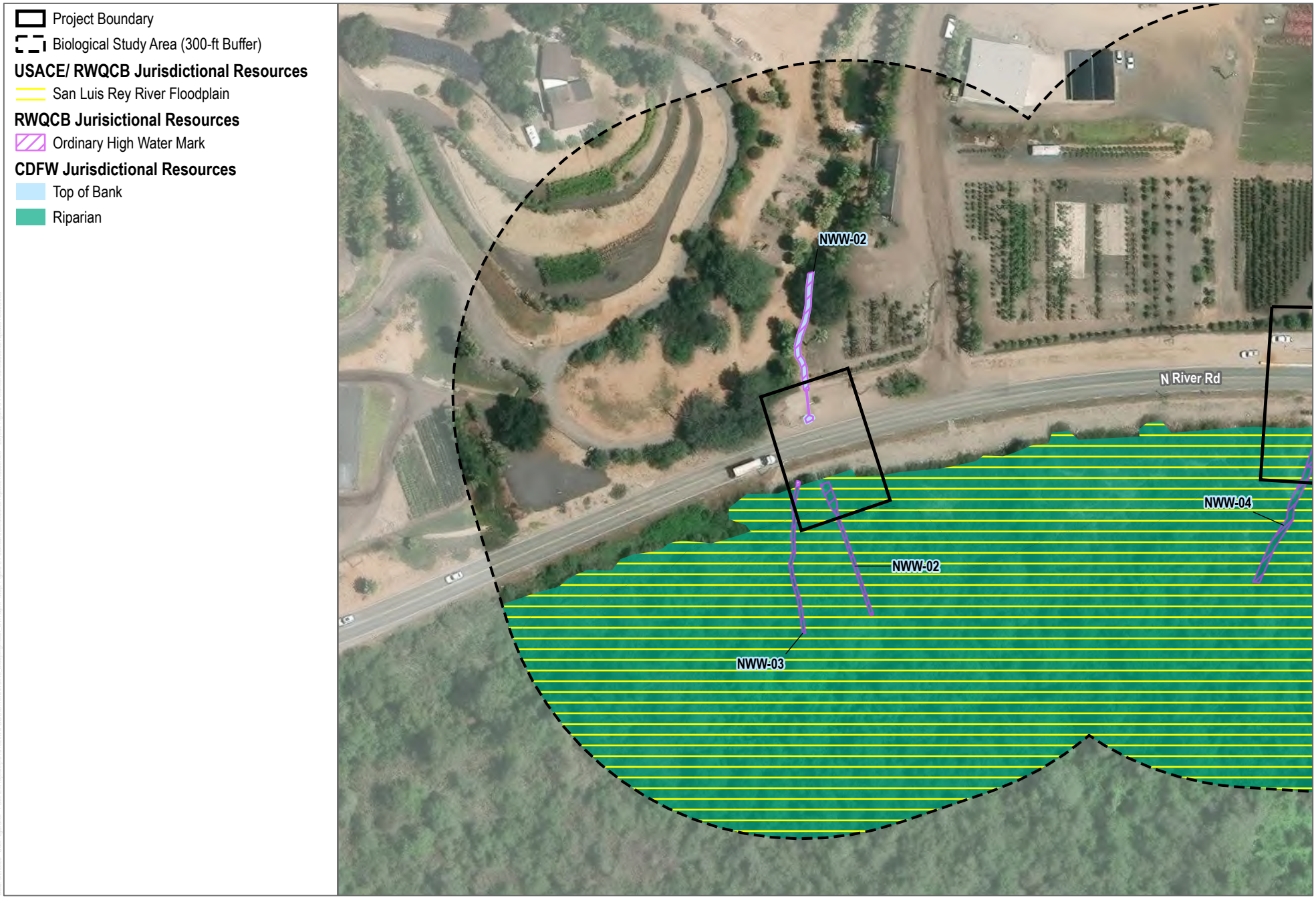
0 62.5 125 Feet

FIGURE 5b

Potential Jurisdictional Aquatic Resources - USACE/RWQCB/CDFW - Culvert #2

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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SOURCE: Esri World Imagery; Open Street Map 2023

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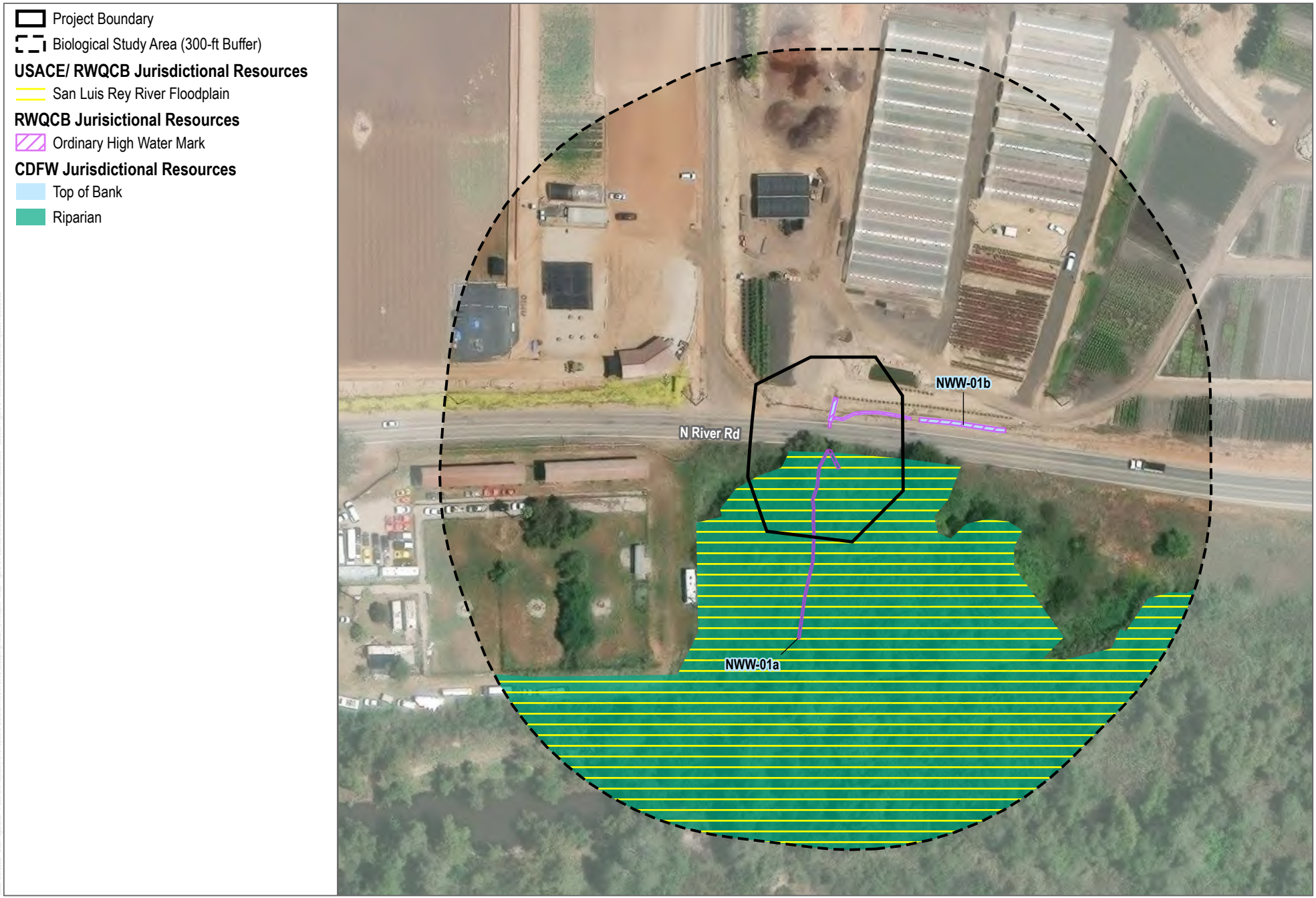
0 62.5 125 Feet

FIGURE 5c

Potential Jurisdictional Aquatic Resources - USACE/RWQCB/CDFW - Culvert #3

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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SOURCE: Esri World Imagery; Open Street Map 2023

FIGURE 5d

Potential Jurisdictional Aquatic Resources - USACE/RWQCB/CDFW - Culvert #4

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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0 62.5 125 Feet

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Table 5. CDFW Aquatic Resource Summary for the Study Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Acreage
Streambed and Bank		
NWW-01	33.25909561, -117.2703598	0.04
NWW-02	33.25960771, -117.2657312	0.05
NWW-03	33.25964266, -117.2659161	0.01
NWW-04	33.2599545, -117.2641418	0.08
NWW-05	33.26893324, -117.2631853	0.04
	Streambed and Bank Subtotal	*0.22*
Riparian		
Mule Fat Scrub	33.25909629, -117.2703182	1.59
Southern Riparian Scrub	33.26883944, -117.2632229	0.12
Southern Arroyo Willow Riparian Forest	33.25961941, -117.2657727	1.02
Non-Native Riparian	33.26900083, -117.2631734	0.24
	Riparian Subtotal	*2.96*
	Grand Total	**3.18[1]**

Notes: CDFW = California Department of Fish and Wildlife; NWW = non-wetland water.
[1] Totals may not sum due to rounding.

Table 6. USACE Aquatic Resource Summary for the Study Area

Feature Name	Strahler Stream Order	Cowardin Code[1]	OHWM Indicators	Location (Latitude/ Longitude; Decimal Degrees)	Acres/Linear Feet
Non-Wetland Waters					
San Luis Rey River	4	R5UBF	None in study area	33.259889°, -117.264282°	2.60/2,021

Notes: USACE = U.S. Army Corps of Engineers; OHWM = ordinary high water mark.
[1] Pursuant to Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979) and USACE Cowardin Codes for ORM Data Entry (USACE 2025).

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6 Project Impacts

This chapter addresses direct and indirect impacts to biological resources that would result from implementation of the proposed project.

6.1 Definition of Impacts

6.1.1 Direct Permanent Impacts

Direct permanent impacts refer to the absolute and permanent physical loss of a biological resource due to clearing, grading, and/or construction of structures, which can be determined in four ways: (1) permanent loss of vegetation communities, land covers, and general wildlife and their habitat; (2) permanent loss of or harm to individuals of special-status plant and wildlife species; (3) permanent loss of suitable habitat for special-status species; and (4) permanent loss of wildlife movement and habitat connectivity.

6.1.2 Direct Temporary Impacts

Direct temporary impacts refer to a temporal loss of vegetation communities and land covers resulting from vegetation and land cover clearing. The main criterion for direct temporary impacts is that impacts would occur for a short period of time and would be reversible.

6.1.3 Indirect Impacts

Indirect impacts are reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the direct construction disturbance zone that may occur during construction (i.e., short-term, construction-related indirect impacts) or later in time as a result of the development (i.e., long-term, or operational, indirect impacts). Indirect impacts may affect areas within the defined study area but outside the construction disturbance zone. Indirect impacts include short-term effects immediately related to construction activities and long-term or chronic effects related to the human occupation of developed areas (i.e., development-related, long-term effects) that are adjacent to naturalized areas.

For the proposed project, it is assumed that the potential indirect impacts resulting from construction activities include fugitive dust from earthmoving activities, accidental leaks or spills from construction equipment, noise from construction activities, and general human presence that may temporarily disrupt species and habitat vitality, as well construction-related soil erosion and runoff that could affect downstream resources.

6.1.4 Explanation of Findings of Significance

Impacts to sensitive vegetation communities or riparian habitat, special-status plant species, special-status wildlife species, wildlife corridors and habitat connectivity, and regional resource planning must be analyzed to determine whether such impacts are significant. CEQA Guidelines Section 15064(b) states that an ironclad definition of "significant" effect is not possible because the significance of an activity may vary with the setting. However, CEQA Guidelines Section 15065(a) lists impacts that are helpful in defining whether a project may have a significant effect on the environment. Mandatory findings of significance occur when there is substantial evidence that a

project could (1) substantially degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, or (5) reduce the number or restrict the range of a rare or endangered plant or animal.

The following are the significance thresholds for biological resources provided in the CEQA Appendix G environmental checklist, which states that a project would potentially have a significant effect if it would do any of the following:

Impact BIO-1	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service
Impact BIO-2	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service
Impact BIO-3	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
Impact BIO-4	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 impedes the use of native wildlife nursery sites
Impact BIO-5	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
Impact BIO-6	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan

The evaluation of whether or not an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or animal. Impacts may be important locally because they result in an adverse alteration of existing site conditions but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact and the offsetting benefits of mitigation are the primary determinants of whether or not that impact can be mitigated to a less-than-significant level.

6.2 Impact BIO-1: Special-Status Species

Direct Impacts

Special-Status Plants

Direct impacts to special-status plant species are not expected, as the areas where direct impacts will occur primarily consist of hardscape or riprap, and in the natural areas where direct impacts will occur, no special-status plant species were detected. As such, there would be **no impact.**

Special-Status Wildlife

Fourteen special-status species have a moderate to high potential to occur within the study area and are listed as follows: South coast garter snake, southwestern pond turtle, Cooper's hawk, Southern California rufous-crowned sparrow, western yellow-billed cuckoo, southwestern willow flycatcher, yellow-breasted chat, yellow warbler, least Bell's vireo, pallid bat, Townsend's big-eared bat, western mastiff bat, San Diego black-tailed jackrabbit, and Crotch's bumble bee. Four federally or state-listed wildlife species have a low potential to occur within the study area but were included in this analysis due to their listing, and are listed as follows: western spadefoot, tricolored blackbird, coastal California gnatcatcher, and Stephens' kangaroo rat.

All of the aforementioned species have potential to occur within coastal sage scrub habitat or riparian communities which are present within the study area. However, within the impact area, land covers consist of developed or disturbed areas, with the exception of 0.08 acres of mule fat scrub habitat on the south side of North River Road, in the western part of the project area. As such, it is not anticipated that there will be any direct impacts to special-status wildlife from implementation of the project, and any that do occur would be reduced to **less than significant with mitigation incorporated** with the implementation of **Mitigation Measure (MM) BIO-1** (Minimize Construction-Related Indirect Impacts to Biological Resources)**.**

While no significant direct impacts are expected to special-status wildlife, there is the potential for indirect impacts to special-status birds within the study area, which are discussed in further detail below.

Indirect Impacts

Special-Status Plants

Construction-Related Indirect Impacts

Potential short-term or temporary indirect impacts to special-status plant species resulting from construction activities include inadvertent spillover impacts, including unintentional clearing, trampling, or grading outside of the Project footprint; generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the release of chemical pollutants. These potential construction-related indirect impacts to special-status plant species would be potentially significant absent mitigation.

Project implementation of **MM-BIO-1** would reduce potential indirect impacts to a less-than-significant level by requiring delineation of Project boundaries, implementation of standard dust control measures, development of a stormwater pollution prevention plan (SWPPP), and servicing of all vehicles and equipment in designated staging

areas. Additionally, implementation of **MM-BIO-2** (Biological Monitoring) would reduce potential indirect impacts to a less than-significant level by requiring implementation of biological monitoring and a Worker Environmental Awareness Program Training. With implementation of MM-BIO-1 and MM-BIO-2, construction-related indirect impacts to special-status plant species would be minimized to **less than significant with mitigation incorporated.**

Special-Status Wildlife

Project development has the potential to result in indirect impacts to special-status wildlife.

Potential indirect impacts to special-status wildlife resulting from construction activities include the release of chemical pollutants; generation of fugitive dust, vibration, and increased human presence; and nighttime lighting. Additionally, adverse effects from noise could result from project construction activities, which has the potential to disrupt foraging, nesting, and reproductive activities of special-status birds such as Cooper's hawk, Southern California rufous-crowned sparrow, western yellow-billed cuckoo, southwestern willow flycatcher, yellow-breasted chat, yellow warbler, least Bell's vireo, tricolored blackbird, and coastal California gnatcatcher.

These potential construction-related indirect impacts to special-status wildlife would be potentially significant absent mitigation.

Project implementation of MM-BIO-1 and MM-BIO-2 would help to reduce potential indirect impacts to a less-than-significant level through delineation of Project boundaries, development of a SWPPP, implementation of standard dust control measures, requirement that all vehicles and equipment be serviced in designated staging areas, mandating that construction will not be conducted at night, biological monitoring, and requirement of a Worker Environmental Awareness Training. Additionally, potential noise impacts to nesting birds would be avoided and minimized through implementation of **MM-BIO-3** (Nesting Bird Surveys), which requires a nesting bird survey to be conducted within the project area and a 500-foot buffer 72 hours prior to any construction activities should work be conducted during the breeding season, and the implementation of appropriate disturbance avoidances buffers for any active nests.

Implementation of MM-BIO-1 through MM-BIO-3 would reduce construction-related indirect impacts to special-status wildlife to **less than significant with mitigation incorporated.**

6.3 Impact BIO-2: Riparian Habitat and Sensitive Communities

Direct Impacts

Five sensitive vegetation communities were identified within the study area: southern arroyo willow riparian forest, disturbed southern riparian scrub, mulefat scrub, Diegan coastal sage scrub, and non-vegetated channel or floodway.

There is potential for direct impacts to 0.37 acres of mulefat scrub in the southern portion of the work area; however, it would be limited to the minimal extent of vegetation removal needed to complete construction activities. Given how small the area of mulefat scrub to potentially be impacted is, the incremental loss of the habitat on the project site would not be expected to diminish the abundance of these habitats on a regional level. Additionally, Project implementation of MM-BIO-1 and MM-BIO-2 would help to further reduce potential direct impacts to special-

status vegetation communities through delineation of Project boundaries, biological monitoring, and requirement of a Worker Environmental Awareness Training,

The proposed project would result in permanent direct impacts to agriculture, urban/developed, disturbed habitat, mulefat scrub, and non-native riparian. These impacts are summarized in Table 7 and their spatial distributions are shown in Figure 6.

Table 7. Impacts to Vegetation Communities

Vegetation Community/Land Cover Type	Proposed Impacts (Acres)	Total Within Study Area (Acres)[1]	Mitigation	
			Minimum Mitigation Ratio	Mitigation Required (Acres)
Agriculture	0.01	11.12	None	0.00
Urban/Developed	0.10	3.86	None	0.00
Disturbed Habitat	0.01	1.93	None	0.00
Mulefat Scrub	0.08	2.01	1:1	0.08
Non-Native Riparian	0.02	0.19	1:1	0.02
Total[1]	**0.22**	**19.11**	**N/A**	**0.10**

Notes: N/A = not applicable.
[1] Acreages may not sum precisely due to rounding.

Impacts to mulefat scrub require mitigation, per Table 5-2, Mitigation Standards for Impacts to Natural Vegetation and Habitat, in the Oceanside Subarea Plan (City of Oceanside 2010). The impacted mulefat scrub is also entirely contained within CDFW jurisdiction and is considered riparian vegetation. Permanent impacts to mulefat scrub are considered a potentially significant impact per the Oceanside Subarea Plan. The permanent loss of this vegetation community would be mitigated to less than significant with the implementation of **MM-BIO-4** (Compensation for Unavoidable Loss of Aquatic Resources). Impacts will be mitigated at a minimum of a 1:1 ratio with establishment or re-establishment for impacts on aquatic resources as a part of an overall strategy to ensure no net loss. If establishment or re-establishment mitigation is not available, a higher ratio may be needed to achieve no net loss. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with USACE, RWQCB, and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.

Direct impacts to sensitive vegetation communities would be mitigated to a level below significant with implementation of MM-BIO-1, MM-BIO-2, and MM-BIO-4. Therefore, direct impacts to riparian habitat and sensitive vegetation communities would be **less than significant with mitigation incorporated**.

Indirect Impacts

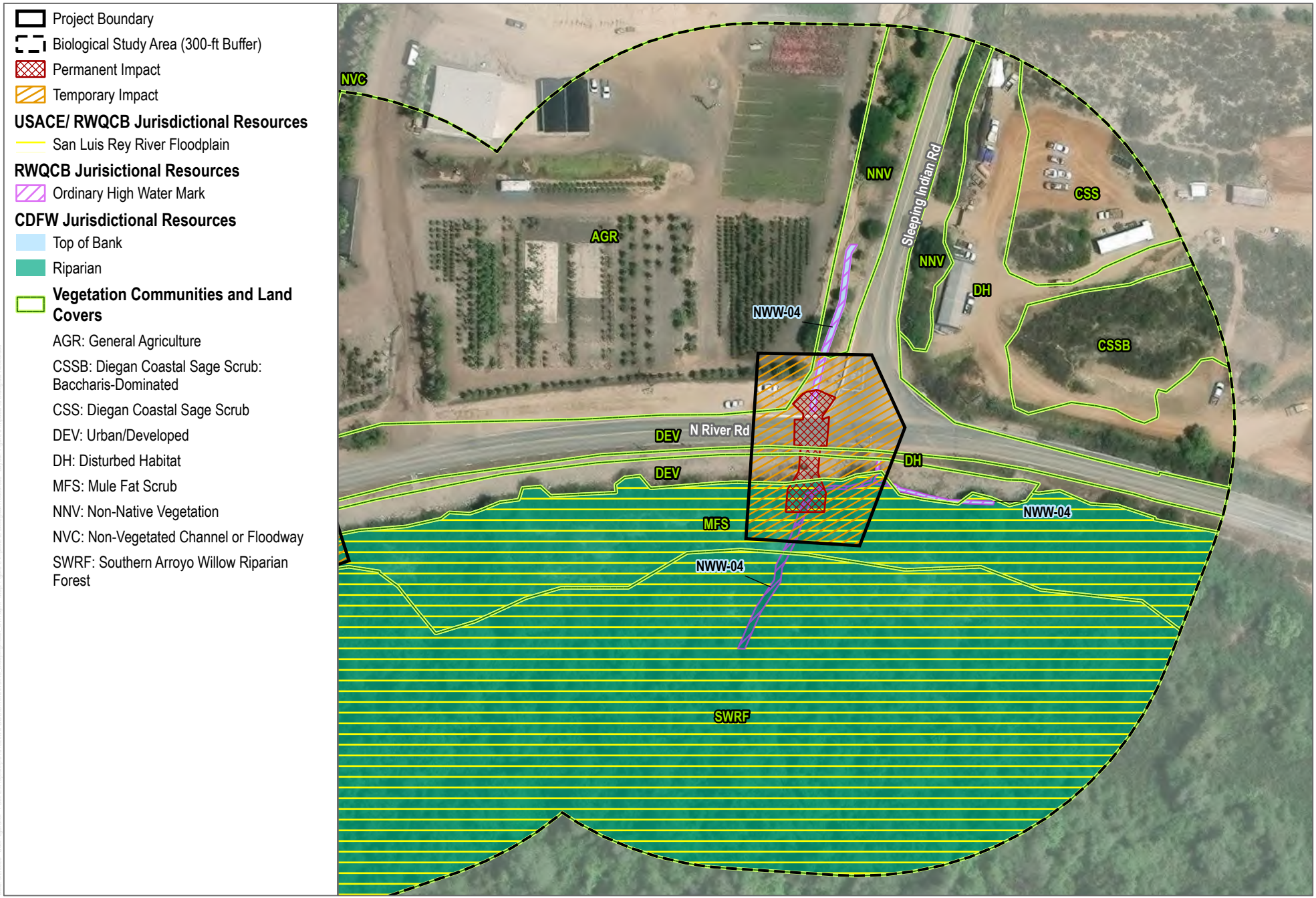
Potential short-term indirect impacts to special-status vegetation communities in the study area would primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust, increased human activity, and the introduction of pollutants from construction equipment. Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, and transpiration; increased penetration of phytotoxic gaseous pollutants; and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other

project-related materials) may affect special-status vegetation communities. The use of chemical pollutants can decrease the number of plant pollinators, increase the existence of non-native plants, and cause damage to and destruction of native plants. These potential short-term, construction-related indirect impacts could affect the special-status vegetation communities in the study area.

Project implementation of **MM-BIO-1** and **MM-BIO-2** would help to reduce potential indirect impacts to special-status vegetation communities a less-than-significant level through delineation of Project boundaries, development of a SWPPP, implementation of standard dust control measures, requirement that all vehicles and equipment be serviced in designated staging areas, mandating that construction will not be conducted at night, biological monitoring and requirement of a Worker Environmental Awareness Training,

Implementation of **MM-BIO-1** and **MM-BIO-2** would reduce construction-related indirect impacts to special-status vegetation communities to **less than significant with mitigation incorporated.**

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SOURCE: Esri World Imagery; Open Street Map 2023

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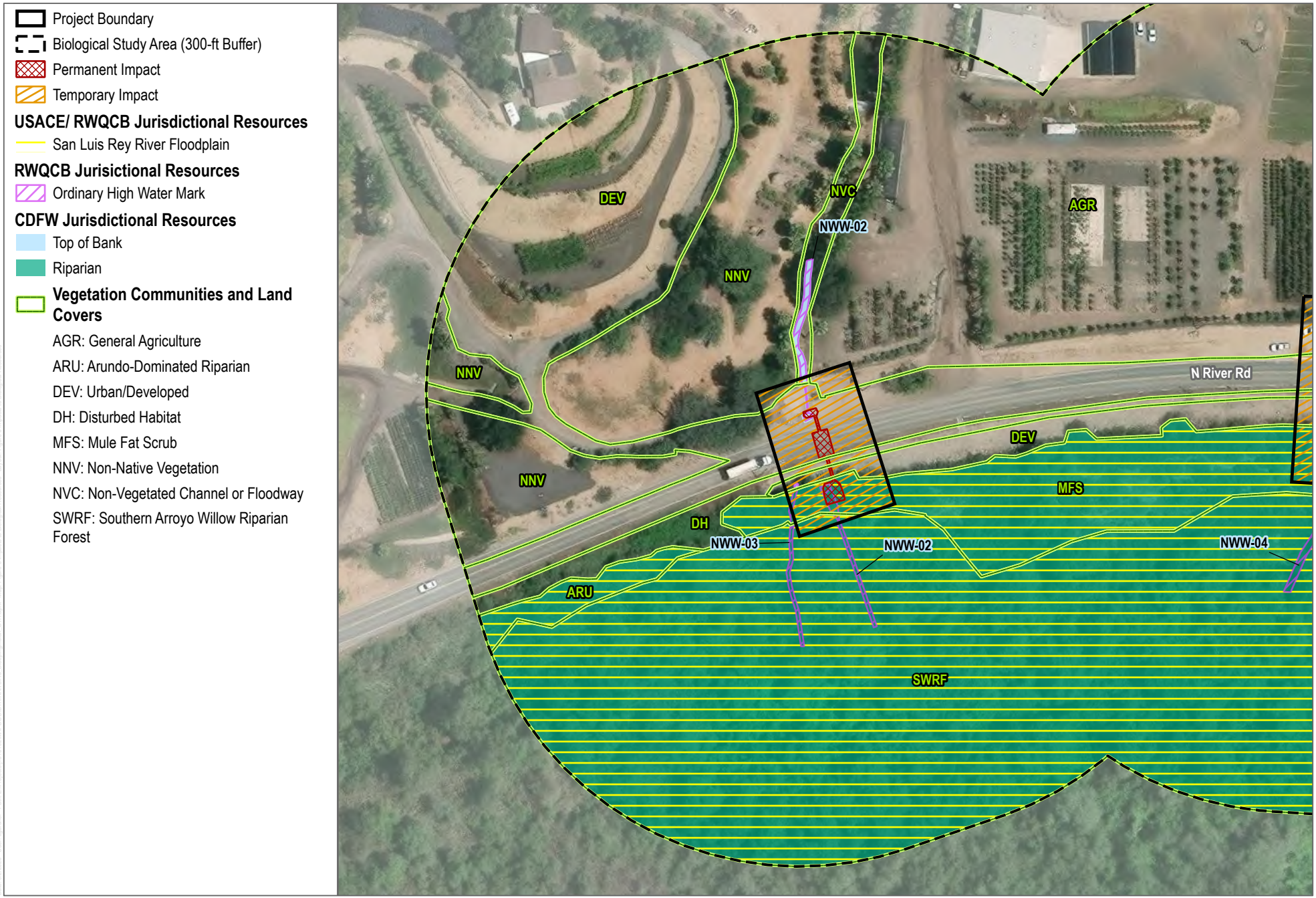
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FIGURE 6b

Impacts to Biological Resources - Culvert #2

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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SOURCE: Esri World Imagery; Open Street Map 2023

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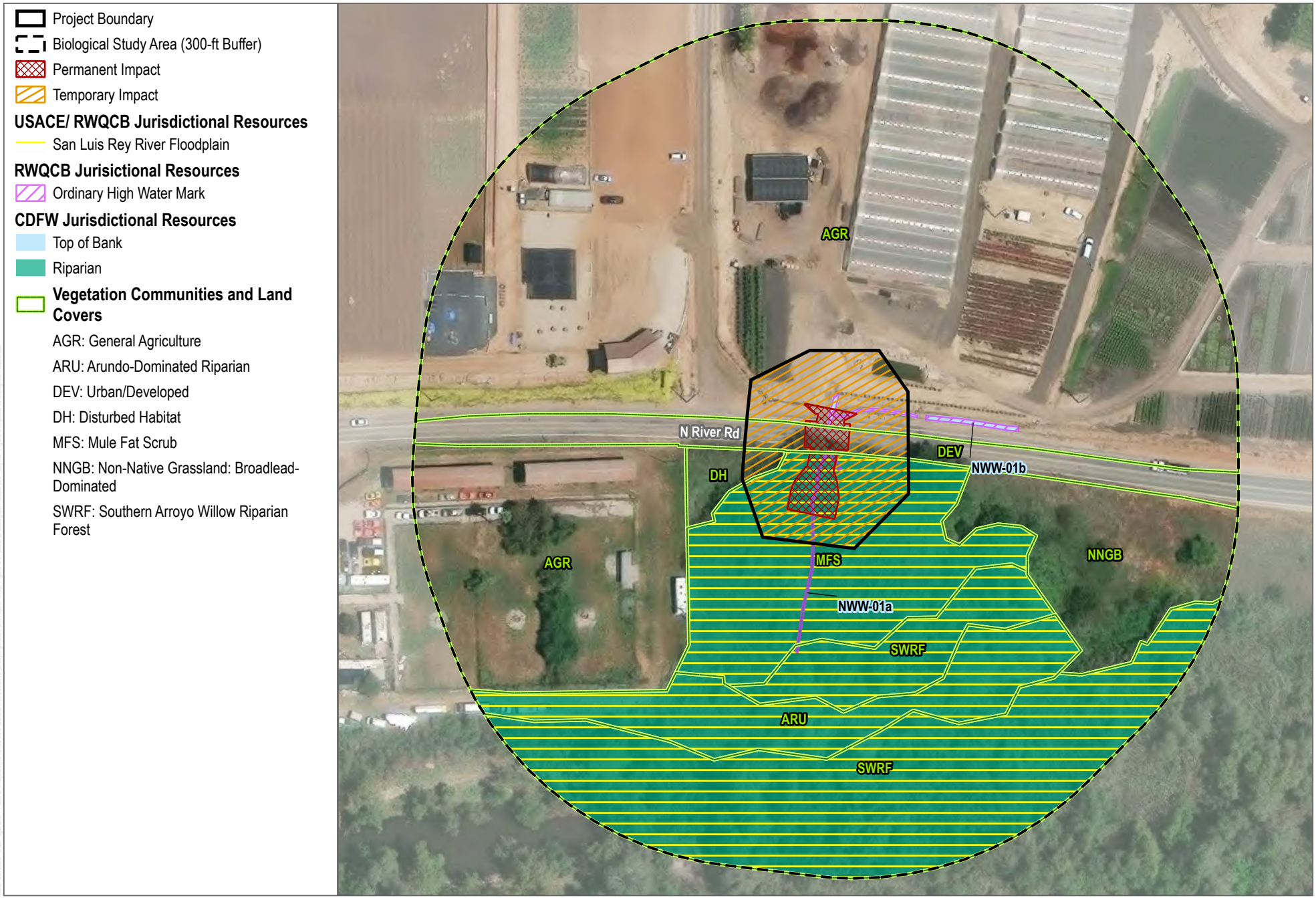
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FIGURE 6c

Impacts to Biological Resources - Culvert #3

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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SOURCE: Esri World Imagery; Open Street Map 2023

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0 55 110 Feet

FIGURE 6d

Impacts to Biological Resources - Culvert #4

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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6.4 Impact BIO-3: Jurisdictional Wetlands and Waters

Direct Impacts

The Proposed Project would result in direct permanent and temporary impacts to the jurisdictional resources summarized in Tables 4, 5, and 6. These impacts shown in Figure 7 and summarized in Tables 8, 9, and 10.

Direct impacts to state protected aquatic resources would be reduced to a less than significant level through incorporation of MM-BIO-4, which requires consultation with agency staff to ensure no net loss of regulated aquatic resources. Following implementation of MM-BIO-4, direct impacts to jurisdictional wetlands and waters would be **less than significant with mitigation incorporated**.

Table 8. Impacts to RWQCB Aquatic Resources

Feature Name	Total Acreage Within the Study Area	Temporarily Impacted Acres	Permanently Impacted Acres
Non-Wetland Waters			
NWW-01	0.02	0.005	0.006
NWW-02	0.03	0.004	0.004
NWW-03[1]	0.01	0.002	0.000
NWW-04	0.05	0.015	0.007
NWW-05	0.03	0.006	0.005
San Luis Rey River	0.01	0.002	0.000
Total	**0.14**	**0.032**	**0.022**

Notes: USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board.
Totals may not add up due to rounding.
[1] NWW-03 is contiguous with the San Luis Rey River

Table 9. Impacts to CDFW Aquatic Resources

Feature Name	Total Acreage Within the Study Area	Temporarily Impacted Acres	Permanently Impacted Acres
Streambed and Bank			
NWW-01	0.04	0.003	0.006
NWW-02	0.05	0.011	0.004
NWW-03	0.01	0.002	0.000
NWW-04	0.08	0.015	0.007
NWW-05	0.04	0.013	0.005
Total	*0.22*	*0.044*	*0.022*
Riparian			
Mule Fat Scrub	1.59	0.353	0.076
Southern Riparian Scrub	0.12	0.000	0.000
Southern Arroyo Willow Riparian Forest	1.02	0.013	0.000
Non-Native Riparian	0.24	0.081	0.017

Table 9. Impacts to CDFW Aquatic Resources

Feature Name	Total Acreage Within the Study Area	Temporarily Impacted Acres	Permanently Impacted Acres
Riparian Subtotal	*2.96*	*0.447*	*0.093*
Grand Total	**3.18**	**0.491**	**0.115**

Notes: CDFW = California Department of Fish and Wildlife; NWW = non-wetland water.
Totals may not add up due to rounding.

Table 10. Impacts to USACE Aquatic Resources (Non-Wetland Waters)

Feature Name	Total Acreage Within the Study Area	Temporarily Impacted Acres	Permanently Impacted Acres
San Luis Rey River Floodplain	2.60	0.37	0.76
Total	**2.60**	**0.37**	**0.76**

Figure 7a Impacts to Jurisdictional Resources

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Figure 7b Impacts to Jurisdictional Resources

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Figure 7c Impacts to Jurisdictional Resources

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Figure 7d Impacts to Jurisdictional Resources

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Indirect Impacts

Potential temporary indirect impacts could result from construction activities and would include impacts from the generation of fugitive dust and the potential introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, and transpiration; increased penetration of phytotoxic gaseous pollutants; and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/jurisdictional waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. However, during construction, erosion-control measures would be implemented as part of the stormwater pollution prevention plan for the project. Prior to the start of construction activities, the contractor is required to file a Permit Registration Document with the State Water Resources Control Board in order to obtain coverage under the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS000002) or the latest approved general permit. This permit is required for earthwork that results in the disturbance of 1 acre or more of total land area. The required stormwater pollution prevention plan will mandate the implementation of best management practices to reduce or eliminate construction-related pollutants in the runoff, including sediment. Therefore, temporary indirect impacts would be less than significant due to compliance with regulations.

6.5 Impact BIO-4: Wildlife Corridors and Nurseries

While the study area does not occur within any designated wildlife corridors or habitat linkages identified in the South Coast Missing Linkages analysis conducted by South Coast Wildlands (2008) or CDFW's California Essential Habitat Connectivity Project (Spencer et al. 2010), the San Luis Rey River riparian corridor present in the southern portion of the study area provides for wildlife movement. The area has the potential to provide foraging and nesting habitat for raptors and special-status birds. However, only a very small portion of the project site is associated with natural habitats within the San Luis Rey River (0.08 acres of mulefat scrub). Additionally, this impacted portion of the San Luis Rey River is located on the outer edge of the river channel directly adjacent to North River Road and it is anticipated that wildlife using this corridor would easily be able to avoid this small area by moving farther into the riparian vegetation present. Furthermore, project work is anticipated to take place during the daytime, while most potential wildlife movement within the riparian corridor would be expected to take place during the nighttime. Direct or indirect impacts to wildlife corridors and habitat connectivity would be **less than significant**.

The project would be required to comply with the MBTA and Sections 3503, 3503.5, and 3513 of the California Fish and Game Code by preventing the disturbance of nesting birds during construction activities. This would generally involve clearing a project site of all vegetation outside the nesting season (from September 1 through January 31), or if construction would commence within the nesting season (which generally runs from February 1 through August 31 and as early as February 1 for raptors), conducting a pre-construction nesting bird survey to determine the presence of nesting birds or active nests at a construction site. Any active nests and nesting birds must be protected from disturbance by construction activities through buffers between nest sites and construction activities. The buffer areas may be removed only after the birds have fledged. These requirements are outlined in MM-BIO-3. Compliance with the MBTA and implementation of MM-BIO-2 would ensure that the implementation of the project would not interfere with the nesting of any native bird species. Direct and indirect impacts to nurseries would be **less than significant with mitigation incorporated.**

6.6 Impact BIO-5: Local Policies or Ordinances

City of Oceanside Policy 400-02, Removal of Publicly Owned Trees

The project does not involve removal of publicly owned trees. Therefore, no impact would occur.

6.7 Impact BIO-6: HCP/NCCP

The proposed project is consistent with the requirements of the draft Oceanside Subarea Plan. Specifically, as required in Section 5.3.4 of the Oceanside Subarea Plan, the project will mitigate for impacts to special-status biological resources with mitigation within the Wildlife Corridor Planning Zone or pre-approved Mitigation Areas (City of Oceanside 2010). The proposed project will directly impact 0.08 acres of vegetation communities that would require mitigation under the plan.

These vegetation communities function as a small piece of a larger habitat corridor along the San Luis Rey River. Therefore, mitigation occurring within the riparian corridor of the San Luis Rey River would provide preservation of biologically equivalent or superior habitat, as well as fulfilling the requirements of the Oceanside Subarea Plan for habitat in the Off-Site Mitigation Zone.

Although impacts will occur within the buffer of the San Luis Rey River and the general creek/tributary buffer proposed by the Oceanside Subarea Plan, impacts will occur primarily within agricultural land (0.58 acres), developed land (0.36 acres), and disturbed habitat (0.31 acres). The remaining impacts are to 0.08 acres of mulefat scrub. Impacts within the buffer are required for necessary improvements to City stormwater infrastructure, which is an allowable use and does not fall under one of the three prohibited uses within the buffer (see Section 5.2.4 of the Oceanside Subarea Plan). Because the proposed project would mitigate these direct impacts, the proposed project would not result in a loss of vegetation that is regionally significant; therefore, it would not contribute to a cumulative impact.

A small portion of the project site is within the Agricultural Exclusion Zone north of the San Luis Rey River as defined in Section 5.3.3 of the Oceanside Subarea Plan. Discretionary actions, conversions to nonagricultural uses, or removal of habitat within the Agricultural Exclusion Zone will be subject to the conservation guidelines listed in Section 5.3.3, and to the Citywide conservation policies presented in Section 5.2, of the Oceanside Subarea Plan. Land use within the Agricultural Exclusion Zone will not change as a result of the proposed project. Impacts within the Agricultural Exclusion Zone are limited to a strip of disturbed habitat along the northern shoulder of North River Road and will not disturb or remove any wildlife habitat.

7 Mitigation Measures

There would be potential direct and indirect significant impacts to sensitive vegetation communities, special-status wildlife species, and jurisdictional resources with implementation of the project.

7.1 Minimization and Mitigation Measures

The following mitigation measures shall be implemented during the proposed project to reduce the significant impacts identified in Chapter 6, Project Impacts, to a less-than-significant level. Significant direct and indirect impacts to special-status species, sensitive vegetation communities and jurisdictional resources can be mitigated to less than significant with implementation of the following measures:

MM-BIO-1 Minimize Construction-Related Indirect Impacts to Biological Resources. Prior to issuance of a grading permit, the Project's Applicant/Developer shall include the following in the construction contractor's plans and specifications to address indirect construction-related impacts to special-status species:

- **Delineation of Property Boundaries.** Before beginning activities that would cause impacts, the contractor shall, in consultation with the biological monitor, clearly delineate the boundaries with fencing, stakes, or flags, consistent with the grading plan, within which the impacts will take place. All impacts outside the fenced, staked, or flagged areas shall be avoided, and all fencing, stakes, and flags shall be maintained until the completion of impacts in that area. In addition, any avoided environmental resources shall be clearly delineated. Prior to implementing construction activities, the biological monitor shall verify that the flagging clearly delineates the construction limits and any sensitive environmental resources to be avoided.
- **Standard Dust Control Measures.** Standard dust control measures as per the South Coast Air Quality Management District shall be implemented to reduce dust impacts on nearby conserved lands, plants, and wildlife. Measures include controlling speed to 15 mph or less on unpaved roads, replacing ground cover in disturbed areas as quickly as possible, frequently watering active work sites, installing shaker plates, and suspending excavation and grading operations during periods of high winds.
- **Stormwater Pollution Prevention Plan.** Prior to issuance of a grading permit for construction, the applicant shall submit a stormwater pollution prevention plan (SWPPP) to the City of Oceanside that specifies best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving off site and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Best management practices categories employed on site would include erosion control, sediment control, and non-stormwater (good housekeeping).
- **Minimize Spills of Hazardous Materials.** All vehicles and equipment shall be maintained in proper condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Hazardous spills and contaminated soil shall be immediately cleaned up and the contaminated soil shall be properly handled or

disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated staging area.

- **Wildlife Hazards.** The following measures shall be implemented to ensure that wildlife do not become trapped, entangled, injured, or poisoned by construction activities:
  - Structures in which wildlife may become trapped (e.g., open pipes, pits, trenches) shall be tightly covered at the end of each work day. If covering the structure is not possible, an escape ramp shall be provided to allow any wildlife that falls in to safely escape.
  - Debris piles, construction materials, equipment, and other items that may be used as wildlife refuge shall be inspected for wildlife at the start of each work day and prior to disturbance. If wildlife is discovered, it shall either be moved out of harm's way by a qualified biologist or allowed to move off of the study area on its own.
  - Nets and mesh shall be made of loose-weave material that is not fused at the intersections of the weave, as nets with welded weaves present an entanglement risk.
  - Toxic materials and garbage shall be removed from the work site and safely stored or disposed of at the end of each work day.

  Night Work. All short-term construction lighting shall be facing active work areas only and shall be shielded to avoid light spillover and shall be directed away from adjacent open space areas to protect native wildlife from direct lighting. If lighting is required during construction activities that would occur during or after sunset, the lighting fixtures shall be located on the interior of work areas with a minimum of 50-foot buffer from the edge of adjacent open space.

MM-BIO-2 Biological Monitoring. To prevent inadvertent disturbance to areas outside the limits of grading, all project activities with the potential to impact native vegetation shall be monitored by a biologist. The biological monitor(s) shall be contracted to perform biological monitoring during all vegetation removal activities and periodic monitoring during and after vegetation removal when recommended by a Qualified Biologist. The project biologist(s) also shall do the following:

a. Attend the pre-construction meeting with the contractor and other key construction personnel prior to construction activities to reduce conflict between the timing and location of construction activities with other mitigation requirements (e.g., seasonal surveys for nesting birds).
b. The Qualified Biologist shall conduct a training session for all project personnel prior to any construction activities. At a minimum the training shall include a description of the target species of concern, its habitats, the general provisions of the Endangered Species Act (Act) and the MHCP, the need to adhere to the provision of the Act and the MHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the target species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished. Prior to clearing and grubbing, the project biologist shall conduct meetings with the contractor and other key construction personnel each morning prior to construction activities to go over the proposed activities for the day, and for the monitor(s) to describe the importance of restricting work to designated areas and of minimizing harm to or harassment of wildlife.

c. Review and/or designate the construction area in the field with the contractor in accordance with the final grading plan prior to activities.

d. Supervise and monitor construction activities weekly to ensure against direct and indirect impacts to biological resources that are intended to be protected and preserved and to document that protective fencing is intact.

e. Flush wildlife species (e.g., reptiles, mammals, avian, and other mobile species) from occupied habitat areas immediately prior to brush-clearing activities. This does not include disturbance to nesting birds (see MM-BIO-3) or "flushing" of federally listed species (i.e., coastal California gnatcatcher).

f. Periodically monitor the construction site to verify that the project is implementing the following stormwater pollution prevention plan best management practices: dust control, silt fencing, removal of construction debris and a clean work area, covered trash receptacles that are animal-proof and weather-proof, prohibition of pets on the construction site, and a speed limit of 15 miles per hour.

g. Periodically monitor the construction site after grading is completed and during the construction phase to see that artificial security light fixtures are directed away from open space and are shielded, and to document that no unauthorized impacts have occurred.

h. If dead or injured federally and/or state-listed species are found on site, the City, CDFW, and/or USFWS will be notified in compliance with applicable laws and regulations.

i. Keep monitoring notes for the duration of project construction for submittal in a final report to substantiate the biological supervision of the vegetation clearing and grading activities and the protection of biological resources.

j. Prepare a monitoring report after construction activities are completed that describes the biological monitoring activities, including a monitoring log; photos of the site before, during, and after the grading and clearing activities; and a list of special-status species observed.

k. Halt work, if necessary, and confer with the City of Oceanside to ensure the proper implementation of special-status species and sensitive resource protection measures.

l. Submit a final report to the City of Oceanside within 60 days of project completion that includes as-built construction drawings with an overlay of habitat that was impacted and avoided, photographs of habitat areas that were to be avoided, and other relevant summary information documenting that authorized impacts were not exceeded and that compliance with all measures was achieved.

DOCUMENTATION: The applicant shall provide a letter of agreement with this condition to the City of Oceanside. **TIMING:** Prior to final grading release. **MONITORING:** The City of Oceanside shall review the concurrence letter.

MM-BIO-3 Nesting Bird Surveys. Construction-related ground-disturbing activities (e.g., clearing/grubbing, grading, and other intensive activities) that occur during the avian breeding season (typically February 1 through September 15) shall require a one-time biological survey for nesting bird species to be conducted within the limits of grading and a 500-foot buffer (where feasible) within 72 hours prior to construction. This survey is necessary to ensure avoidance of impacts to nesting raptors and other birds protected by the federal Migratory Bird Treaty Act and California Fish and

Game Code Sections 3503 and 3513. If any active nests are detected, the area shall be flagged and mapped on the construction plans or a biological resources figure, and the information provided to the construction supervisor and any personnel working near the nest buffer. Active nests shall have avoidance buffers established around them (e.g., 250 feet for passerines to 500 feet for raptors) by the project biologist in the field with brightly colored flagging tape, conspicuous fencing, or other appropriate barriers or signage. The project biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to avoid inadvertent impacts to these nests. The project biologist may adjust the 250-foot or 500-foot buffer at their discretion depending on the species and the location of the nest (e.g., if the nest is well protected in an area buffered by dense vegetation). However, if needed, additional qualified monitor(s) shall be provided to monitor active nest(s) or other project activities in order to ensure all of the project biologist's duties are completed. Once the nest is determined by a qualified monitor to be no longer occupied for the season, construction may proceed in the buffer areas.

If construction activities, particularly clearing/grubbing, grading, and other intensive activities, stop for more than 3 days, an additional nesting bird survey shall be conducted within the proposed work area and a 500-foot buffer, where feasible.

DOCUMENTATION: The applicant shall provide a letter of agreement with this condition to the City of Oceanside. **TIMING:** Prior to pre-construction conference and prior to any clearing, grubbing, trenching, grading, or any land disturbances and throughout the duration of the grading, compliance with this condition is mandatory unless the requirement is waived by the City of Oceanside upon receipt of concurrence from the Wildlife Agencies. **MONITORING:** The City of Oceanside shall review the concurrence letter.

MM-BIO-4 Compensation for Unavoidable Loss of Aquatic Resources. If temporary or permanent loss of protected wetlands and other aquatic resources cannot feasibly be avoided, the project proponent will implement the following actions:

- Prior to project activities, the project proponent will coordinate with the USACE Los Angeles District and San Diego RWQCB staff to assure conformance with permitting requirements of Section 401 and 404 of the Clean Water Act and the Porter–Cologne Water Quality Control Act. Prior to activity within CDFW-jurisdictional lake or streambed or associated riparian habitat, the project proponent will coordinate with the appropriate CDFW South Coast Region staff to assure conformance with California Fish and Game Code Section 1600 permitting requirements.
- As part of the permit application process, the project proponent will sufficiently mitigate to ensure no-net-loss of waters at a minimum of 1:1 with establishment or re-establishment for impacts on aquatic resources as a part of an overall strategy to ensure no net loss. If establishment or re-establishment mitigation is not available, a higher ratio may be needed to achieve no net loss. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with USACE, RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.
- Should applicant-sponsored mitigation be implemented, a mitigation and monitoring plan (Plan) will be prepared in accordance with resource agency guidelines and approved by the agencies in accordance with the proposed permits. The Plan will include but is not limited to a

conceptual planting plan including planting zones, grading, and irrigation, as applicable; a conceptual planting plant palette; a long-term maintenance and monitoring plan; annual reporting requirements; proposed success criteria; legal and funding mechanisms; and parties responsible for long-term management and monitoring of the restored or enhanced habitat. Any off-site applicant-sponsored mitigation shall be conserved and managed in perpetuity

- As part of the permit application process, the project proponent will mitigate impacts to sensitive riparian vegetation communities to a less than significant level through preservation of the requisite habitat in perpetuity. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with USACE, RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.
- Best management practices shall be implemented to avoid any indirect impacts to jurisdictional waters, as follows:
    1. Vehicles and equipment shall not be operated in ponded or flowing water except as described in permits.
    2. Water containing mud, silt, or other pollutants from grading or other activities shall not be allowed to enter jurisdictional waters or be placed in locations that may be subjected to high storm flows.
    3. Spoil sites shall not be located within 30 feet from the boundaries of jurisdictional waters or in locations that may be subject to high storm flows where spoils might be washed back into drainages.
    4. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources resulting from Proposed Project-related activities shall be prevented from contaminating the soil and/or entering avoided jurisdictional waters.
    5. No equipment maintenance shall be performed within 100 feet of jurisdictional waters, including wetlands and riparian areas, where petroleum products or other pollutants from the equipment may enter these areas. Fueling of equipment shall not occur on the project site.

7.2 Regional Resource Planning Context – Compliance Review

City of Oceanside MHCP Subarea Plan

The proposed project is consistent with the requirements of the draft Oceanside Subarea Plan. Specifically, as required in Section 5.3.4 of the Oceanside Subarea Plan, the project will mitigate for impacts to special-status biological resources with mitigation within the Wildlife Corridor Planning Zone or pre-approved Mitigation Areas (City of Oceanside 2010). The proposed project will directly impact 0.08 acres of vegetation communities that would require mitigation under the plan.

These vegetation communities function as a small piece of a larger habitat corridor along the San Luis Rey River. Therefore, mitigation occurring within the riparian corridor of the San Luis Rey River would provide preservation of

biologically equivalent or superior habitat, as well as fulfilling the requirements of the Oceanside Subarea Plan for habitat in the Off-Site Mitigation Zone.

Project Implementation Guidelines

Section 5.2.8 of the Oceanside MHCP Subarea Plan contains minimization measures and best management practices that shall be implemented by projects that may impact biological resources within the City of Oceanside.

Conditions of Coverage for Cooper's Hawk

As part of the project review process (e.g., CEQA) for individual projects within the MHCP area, qualified biologists must survey all potential nesting areas during the nesting season. Surveys must be conducted when impacts could occur as a result of direct or indirect impacts from a project in or adjacent to suitable habitat. Preserve/open space areas must include 300-foot biological buffers around nest sites where feasible. No direct impact to active nests are allowed during the nesting season (City of Oceanside 2010).

Avoiding tree pruning activities in or near preserve areas during the breeding season (March 1 through July 31) will not be feasible if the work activities take place during breeding season (City of Oceanside 2010).

Nesting bird surveys are included as a mitigation measure for the project and include surveying for Cooper's hawk and other raptor nests. A 300-foot buffer would be established around any active nests detected during these surveys.

Conditions of Coverage for Coastal California Gnatcatcher

In addition to minimum conservation requirements, all of the following conditions must be met for California gnatcatcher to be adequately conserved (City of Oceanside 2010):

1. Implement an adaptive management program to comprehensively monitor and manage gnatcatcher habitat and populations throughout the preserve system. Increased coordination of monitoring and management may improve knowledge of species' requirements and habitat quality in the study area.

Coastal California gnatcatcher was determined to have low potential to occur in the study area adjacent to direct impacts, but does not have potential to occur within the direct impact areas due to lack of suitable habitat.

2. Take of occupied gnatcatcher habitat must be mitigated according to approved MHCP (Volume I, Section 4.3) or subarea plan ratios using one or more of the following measures: (a) conservation of occupied gnatcatcher habitat inside the BCLA [Biological Core and Linkage Area] or in the unincorporated core area; (b) conservation of linkage areas identified by the MHCP as critical to regional gnatcatcher population connectivity (whether or not such areas are currently occupied by gnatcatchers or vegetated with coastal sage scrub); or (c) restoration of gnatcatcher habitat within critical breeding or linkage areas identified by the MHCP.

Suitable habitat for Coastal California gnatcatcher is not present within the direct impact areas; therefore, the proposed project will not result in take of any occupied gnatcatcher habitat.

3. Oceanside—Conserve at least 664 acres of existing coastal sage scrub in the city, and restore or enhance at least 164 additional acres of coastal sage scrub. Within the city's designated Wildlife Corridor Planning Zone, conserve at least 480 acres of biological open space in a configuration that accommodates continued movement by California gnatcatchers between State Route 78 and the San Luis Rey River. Of this 480-acre total, conserve at least 210 acres of existing gnatcatcher breeding habitat (coastal sage scrub), and increase the net amount of viable breeding habitat within the zone by at least 145 acres through restoration of disturbed, developed, or annual grassland habitats to coastal sage scrub in key locations (Note: Acreages conserved and restored within the Wildlife Corridor Planning Zone count towards the 664 total coastal sage scrub and 164 total restoration acreage requirements for the city.) Conserve 120 acres of contiguous biological open space on the western portion of the city-owned El Corazon property, including at least 45 acres west of the San Diego Gas and Electric transmission easement and 75 acres along Garrison Creek on the northern portion of the property, as detailed in the Oceanside Subarea Plan.

The study area is not within the Wildlife Corridor Planning Zone.

Conditions of Coverage for Least Bell's Vireo

Conditions of coverage for least Bell's vireo from the Oceanside Subarea Plan are as follows (City of Oceanside 2010):

1. As part of the project review process (e.g., CEQA) for individual projects within the MHCP area, a qualified biologist possessing a Section 10(a)1(A) research permit for this species must survey all areas containing potentially suitable habitat (riparian vegetation communities) using approved survey protocols. Surveys shall occur prior to any proposed impact regardless of location inside or outside of the FPA [Focused Planning Area]. Surveys shall be conducted when impacts could occur as a result of indirect impacts by placement of the project in or adjacent to suitable habitat or through creation of suitable conditions for brown-headed cowbirds (e.g., agricultural fields, livestock presence, woodland parks, and roadsides).
2. Any take, both inside and outside of the FPA, shall be consistent with the conditions outlined herein. Projects that impact least Bell's vireo populations outside the FPA shall be required to ensure sufficient management to maintain these populations.
3. Occupied habitat within the FPA shall be managed to restrict activities that could degrade least Bell's vireo habitat, including livestock grazing, human disturbance, clearing or alteration of riparian vegetation, brown-headed cowbird parasitism, and insufficient water levels leading to loss of riparian habitat and surface water. Area-specific management directives shall include measures to provide appropriate successional habitat, cowbird control, and specific measures to protect against detrimental edge effects, and will remove invasive exotic species (e.g., *Arundo donax*). Initiate cowbird trapping when cowbird parasitism rates exceed 10% or as recommended by monitoring results. Restrict human access to vireo-occupied habitat during the breeding season (March 15 to September 15) except for qualified researchers or land managers performing essential preserve management, monitoring, or research functions.
4. Projects having direct or indirect impacts to the least Bell's vireo within the MHCP planning area shall adhere to the following measures to avoid or reduce impacts:

a) The removal of native vegetation and habitat shall be avoided and minimized to the maximum extent practicable. Determination of adequate avoidance and minimization of impacts shall be consistent with Sections 3.6 and 3.7 of the MHCP plan. Deviations from these guidelines shall require written concurrence of the USFWS and CDFG [now CDFW]. For temporary impacts, the work site shall be returned to preexisting contours and revegetated with appropriate native species. All revegetation for temporary and permanent impacts shall occur at the ratios specified in Section 4.3 of the MHCP plan, with a minimum 3:1 ratio for recreation of occupied or potential vireo habitat. Revegetation specifications shall ensure creation and restoration of riparian woodland vegetation to vireo quality. All revegetation plans shall be prepared and implemented consistent with Appendix C (Revegetation Guidelines) and shall require written concurrence of the USFWS and CDFG. If written objections are not provided by the wildlife agencies within 30 days of receipt of written request for concurrence by the local jurisdiction, then the deviation may proceed as approved by the local agency. The wildlife agencies shall provide written comments specifying wildlife agency concerns.

b) Projects shall be carried out consistent with Appendix B (Standard Best Management Practices).

c) Projects shall to the maximum extent practicable avoid impacts during the breeding season of the least Bell's vireo (generally March 15–September 15). Projects that cannot be conducted without placing equipment or personnel in or adjacent to sensitive habitats shall be timed to ensure that habitat is removed prior to the initiation of the breeding season (generally before March 15).

d) Construction noise levels at the riparian canopy edge shall be kept below 60 dBA L_{eq} (Measured as Equivalent Sound Level) from 5 a.m. to 11 a.m. during the peak nesting period of March 15 to July 15. For the balance of the day/season, the noise levels shall not exceed 60 decibels, averaged over a 1-hour period on an A-weighted decibel (dBA) (i.e., 1 hour L_{eq}/dBA). Noise levels shall be monitored and monitoring reports shall be provided to the jurisdictional city, the USFWS, and the CDFG. Noise levels in excess of this threshold shall require written concurrence from the USFWS and CDFG and may require additional minimization/mitigation measures.

e) Brown-headed cowbirds and other exotic species detrimental to least Bell's vireo shall be removed from the site. For new developments adjacent to preserve areas that create conditions attractive to brown-headed cowbirds, jurisdictions shall require monitoring and control of cowbirds.

f) Biological buffers of at least 100 feet shall be maintained adjacent to occupied least Bell's vireo habitat, measured from the outer edge of riparian vegetation. Within this 100-foot buffer, no new development shall be allowed, and the area shall be managed for natural biological values as part of the preserve system. Buffers less than 100 feet shall require written concurrence of the USFWS and CDFG within 30 days of receipt of written request for concurrence by the local jurisdiction.

5. Suitable unoccupied habitat preserved within the FPA shall be managed to maintain or mimic effects of natural fluvial processes (e.g., periodic substrate scouring and deposition).

6. Natural riparian connections with upstream riparian habitat shall be maintained to ensure linkage to suitable occupied and unoccupied habitat within the County [of San Diego] MSCP [Multiple Species Conservation Program Plan] and City of San Diego MSCP Subarea Plan [areas].

Suitable nesting habitat for least Bell's vireo is present within the San Luis Rey River riparian corridor in the southern part of the impact area. Furthermore, this species was documented within the study area in 2013, and USFWS-designated Critical Habitat for this species overlaps the study area. As such, there is high potential for this species to occur within the study area. Direct impacts to all nesting birds, which would include least Bell's vireo if the species were present, would be avoided through implementation of MM-BIO-1 (Minimize Construction-Related Indirect Impacts to Biological Resources), MM-BIO-2 (Biological Monitoring), and MM-BIO-3 (Nesting Bird Surveys).

Conditions of Coverage for Southwestern Willow Flycatcher

Conditions of coverage for southwestern willow flycatcher from the Oceanside Subarea Plan are as follows (City of Oceanside 2010):

1. As part of the project review process (e.g., CEQA) for individual projects within the MHCP area, a qualified biologist possessing a Section 10(a)1(A) research permit for this species must survey all areas containing suitable habitat (riparian woodlands and forests) using approved survey protocols. Surveys shall be conducted when impacts could occur as a result of indirect impacts by placement of the project in or adjacent to potential habitat or through creation of suitable conditions for brown-headed cowbirds (e.g., agricultural fields, livestock presence, woodland parks, roadsides). Surveys shall occur prior to any proposed impact regardless of location inside or outside of the FPA.
2. Nesting southwestern willow flycatchers shall be treated consistent with the Critical Population Policy (Appendix D) and impacts totally avoided. Although southwestern willow flycatcher is not an MHCP Narrow Endemic, wintering localities and confirmed vagrants shall be treated consistent with the Narrow Endemic Species Policy (Appendix D), including the following: (a) maximum avoidance of impacts, to the degree feasible while maintaining reasonable use of the property; (b) for unavoidable impacts, species-specific mitigation designed to minimize adverse effects to species viability and to contribute to species recovery; and (c) no more than 5% gross cumulative loss of suitable habitat inside the FPA or 20% gross cumulative loss outside the FPA.
3. Occupied habitat within the FPA shall be managed to restrict activities that could degrade willow flycatcher habitat, including livestock grazing, human disturbance, clearing or alteration of riparian vegetation, brown-headed cowbird parasitism, and insufficient water levels leading to loss of riparian habitat and surface water. Area-specific management directives shall include measures to provide appropriate successional habitat, cowbird control, and specific measures to protect against detrimental edge effects, and will remove invasive exotic species (e.g., *Arundo donax*). Human access to flycatcher-occupied habitat will be restricted during the breeding season (May 1–September 15) except for qualified researchers or land managers performing essential preserve management, monitoring, or research functions.
4. Projects having direct or indirect impacts to the southwestern willow flycatcher shall adhere to the following measures to avoid or reduce impacts:

a) The removal of native vegetation and habitat shall be avoided and minimized to the maximum extent practicable. Determination of adequate avoidance and minimization of impacts shall be consistent with Sections 3.6 and 3.7 of the MHCP plan. Deviations from these guidelines shall require written concurrence of the USFWS and CDFG. For temporary impacts, the work site shall be returned to preexisting contours and revegetated with appropriate native species. All revegetation for temporary and permanent impacts shall occur at the ratios specified in Section 4.3 of the MHCP plan, with a minimum 3:1 ratio for creation of occupied or potential willow flycatcher habitat. Revegetation specifications shall ensure creation and restoration of riparian woodland vegetation to a quality that eventually is expected to support nesting southwestern willow flycatchers, in the opinion of experts on this species, recognizing that it may take decades to achieve this state. All revegetation plans shall be prepared and implemented consistent with Appendix C (Revegetation Guidelines) and shall require written concurrence of the USFWS and CDFG. If written objections are not provided by the wildlife agencies within 30 days of receipt of written request for concurrence by the local jurisdiction, then the deviation may proceed as approved by the local agency. The wildlife agencies shall provide written comments specifying wildlife agency concerns.

b) Projects shall be carried out consistent with Appendix B (Standard Best Management Practices).

c) Projects shall to the maximum extent practicable avoid impacts during the breeding season of the flycatcher (May 1 to September 15). Projects that cannot be conducted without placing equipment or personnel in or adjacent to sensitive habitats shall be timed to ensure that habitat is removed prior to the initiation of the breeding season.

d) Construction noise levels at the riparian canopy edge shall be kept below 60 dBA L_{eq} (measured as equivalent sound level) from 5 a.m. to 11 a.m. during the peak nesting period of May 1 to September 15. For the balance of the day/season, the noise levels shall not exceed 60 decibels, averaged over a 1-hour period on an A-weighted decibel (dBA) (i.e., 1 hour L_{eq}/dBA). Noise levels shall be monitored, and monitoring reports shall be provided to the jurisdictional city, the USFWS, and the CDFG. Noise levels in excess of this threshold shall require written concurrence from the USFWS and CDFG within 30 days of receipt of request for written concurrence from the local jurisdiction and may require additional minimization/mitigation measures.

e) Brown-headed cowbirds and other exotic species that prey upon the flycatcher shall be removed from the site. For new developments adjacent to preserve areas that create conditions attractive to brown-headed cowbirds, jurisdictions shall require monitoring and control of cowbirds.

f) Biological buffers of at least 100 feet shall be maintained adjacent to occupied flycatcher habitat, measured from the outer edge of riparian vegetation. Within this 100-foot buffer, no new development shall be allowed, and the area shall be managed for natural biological values as part of the preserve system. Buffers less than 100 feet shall require written concurrence of the USFWS and CDFG within 30 days of receipt of request for written concurrence from the local jurisdiction.

5. Suitable unoccupied habitat preserved within the FPA shall be managed to maintain or mimic effects of natural fluvial processes (e.g., periodic substrate scouring and deposition).

6. Natural riparian connections with upstream riparian habitat shall be maintained to ensure linkage to suitable occupied and unoccupied habitat within the County MSCP and City of San Diego MSCP Subarea Plans.

Suitable nesting habitat for southwestern willow flycatcher is present within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented less than 0.25 miles from the study area in 2008. USFWS-designated Critical Habitat for the species is present within the San Luis Rey River corridor within the study area. This species has a high potential to occur within the riparian vegetation in the study area. Direct impacts to all nesting birds, which would include least Bell's vireo if the species were present, would be avoided through implementation of MM-BIO-1 (Minimize Construction-Related Indirect Impacts to Biological Resources), MM-BIO-2 (Biological Monitoring), and MM-BIO-3 (Nesting Bird Surveys).

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Appendix A
Study Area Photos

Appendix B
Plant and Wildlife Compendia

Appendix C

Assessment of Special-Status Plant Species Potentially Occurring in the Study Area

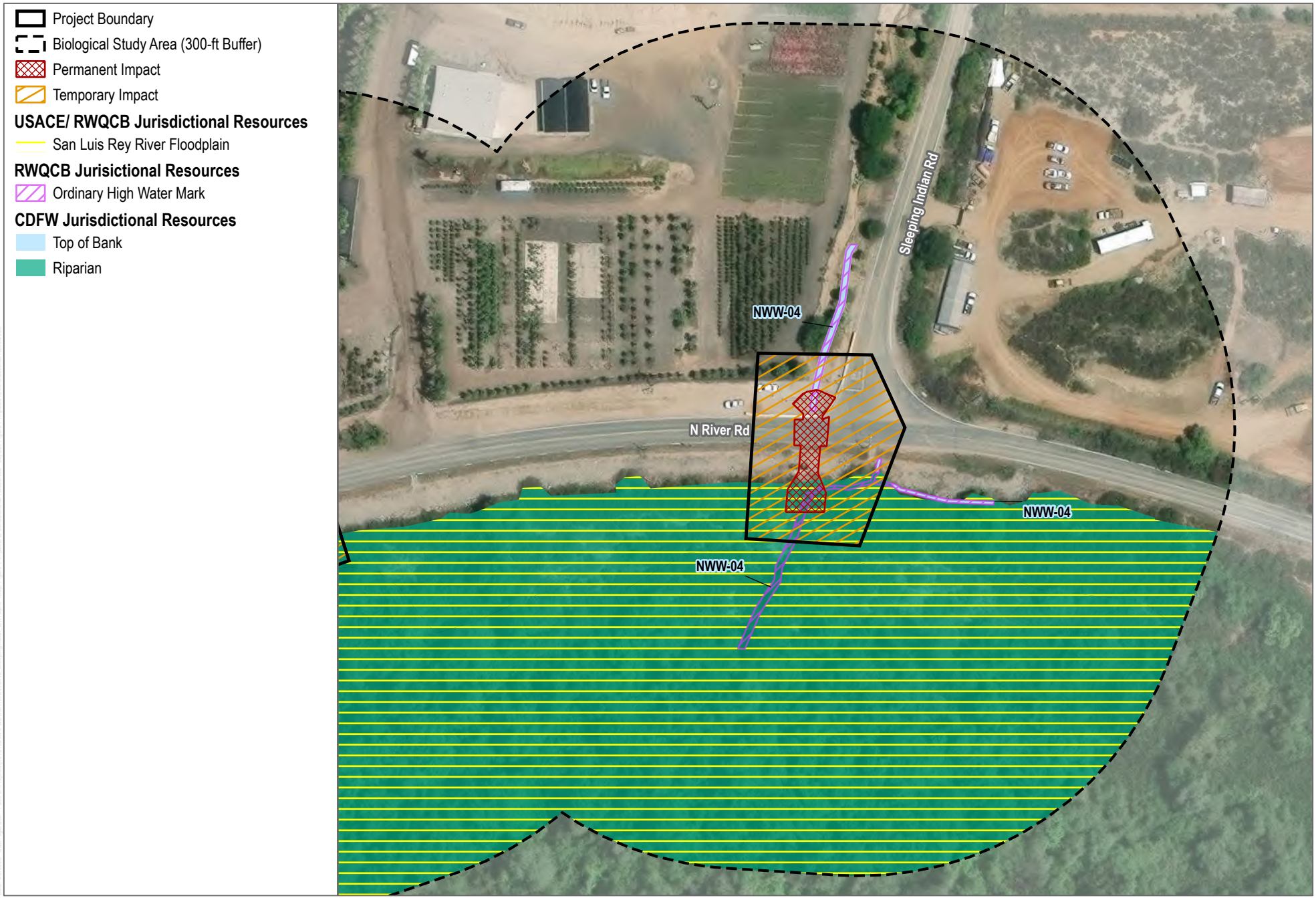
Appendix D

Assessment of Special-Status Wildlife Species Potentially Occurring in the Study Area

Appendix E

Aquatic Resources Delineation Report

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SOURCE: Esri World Imagery; Open Street Map 2023

DUDEK

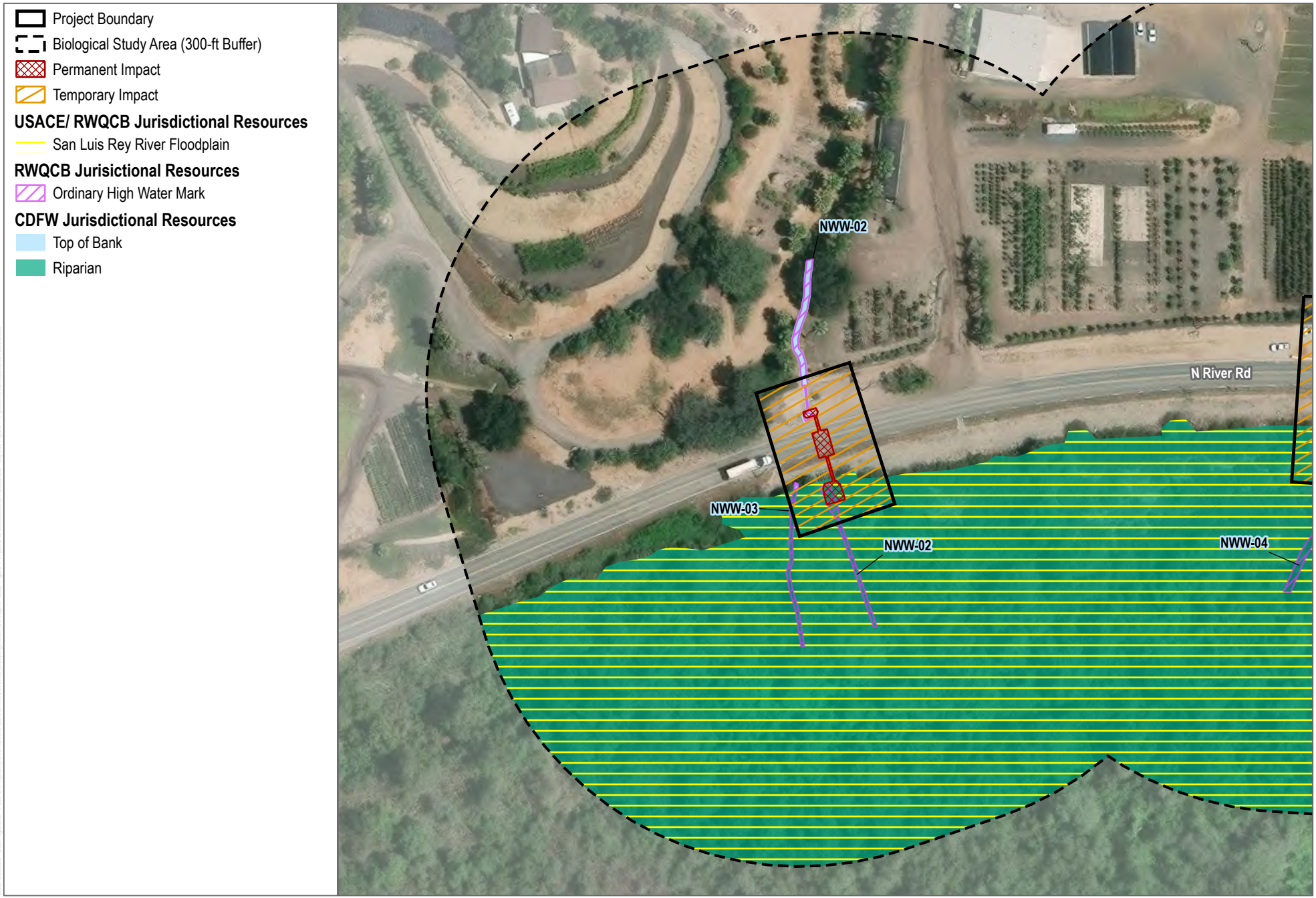
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FIGURE 7b

Impacts to Jurisdictional Resources - Culvert #2

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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SOURCE: Esri World Imagery; Open Street Map 2023

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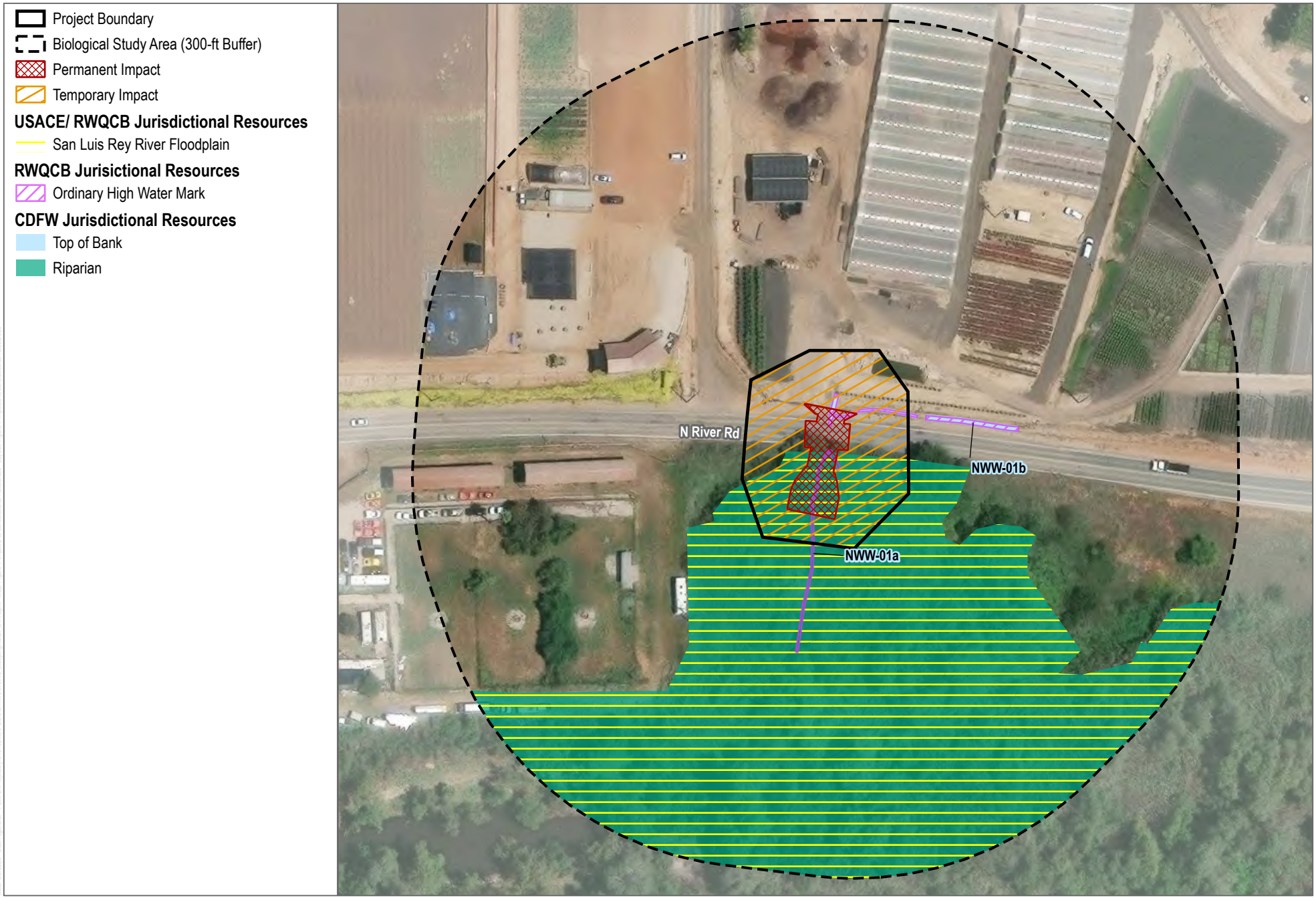
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FIGURE 7c

Impacts to Jurisdictional Resources - Culvert #3

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 7d

Impacts to Jurisdictional Resources - Culvert #4

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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Indirect Impacts

Potential temporary indirect impacts could result from construction activities and would include impacts from the generation of fugitive dust and the potential introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, and transpiration; increased penetration of phytotoxic gaseous pollutants; and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/jurisdictional waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. However, during construction, erosion-control measures would be implemented as part of the stormwater pollution prevention plan for the project. Prior to the start of construction activities, the contractor is required to file a Permit Registration Document with the State Water Resources Control Board in order to obtain coverage under the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS000002) or the latest approved general permit. This permit is required for earthwork that results in the disturbance of 1 acre or more of total land area. The required stormwater pollution prevention plan will mandate the implementation of best management practices to reduce or eliminate construction-related pollutants in the runoff, including sediment. Therefore, temporary indirect impacts would be less than significant due to compliance with regulations.

6.5 Impact BIO-4: Wildlife Corridors and Nurseries

While the study area does not occur within any designated wildlife corridors or habitat linkages identified in the South Coast Missing Linkages analysis conducted by South Coast Wildlands (2008) or CDFW's California Essential Habitat Connectivity Project (Spencer et al. 2010), the San Luis Rey River riparian corridor present in the southern portion of the study area provides for wildlife movement. The area has the potential to provide foraging and nesting habitat for raptors and special-status birds. However, only a very small portion of the project site is associated with natural habitats within the San Luis Rey River (0.08 acres of mulefat scrub). Additionally, this impacted portion of the San Luis Rey River is located on the outer edge of the river channel directly adjacent to North River Road and it is anticipated that wildlife using this corridor would easily be able to avoid this small area by moving farther into the riparian vegetation present. Furthermore, project work is anticipated to take place during the daytime, while most potential wildlife movement within the riparian corridor would be expected to take place during the nighttime. Direct or indirect impacts to wildlife corridors and habitat connectivity would be **less than significant**.

The project would be required to comply with the MBTA and Sections 3503, 3503.5, and 3513 of the California Fish and Game Code by preventing the disturbance of nesting birds during construction activities. This would generally involve clearing a project site of all vegetation outside the nesting season (from September 1 through January 31), or if construction would commence within the nesting season (which generally runs from February 1 through August 31 and as early as February 1 for raptors), conducting a pre-construction nesting bird survey to determine the presence of nesting birds or active nests at a construction site. Any active nests and nesting birds must be protected from disturbance by construction activities through buffers between nest sites and construction activities. The buffer areas may be removed only after the birds have fledged. These requirements are outlined in MM-BIO-3. Compliance with the MBTA and implementation of MM-BIO-2 would ensure that the implementation of the project would not interfere with the nesting of any native bird species. Direct and indirect impacts to nurseries would be **less than significant with mitigation incorporated.**

6.6 Impact BIO-5: Local Policies or Ordinances

City of Oceanside Policy 400-02, Removal of Publicly Owned Trees

The project does not involve removal of publicly owned trees. Therefore, no impact would occur.

6.7 Impact BIO-6: HCP/NCCP

The proposed project is consistent with the requirements of the draft Oceanside Subarea Plan. Specifically, as required in Section 5.3.4 of the Oceanside Subarea Plan, the project will mitigate for impacts to special-status biological resources with mitigation within the Wildlife Corridor Planning Zone or pre-approved Mitigation Areas (City of Oceanside 2010). The proposed project will directly impact 0.08 acres of vegetation communities that would require mitigation under the plan.

These vegetation communities function as a small piece of a larger habitat corridor along the San Luis Rey River. Therefore, mitigation occurring within the riparian corridor of the San Luis Rey River would provide preservation of biologically equivalent or superior habitat, as well as fulfilling the requirements of the Oceanside Subarea Plan for habitat in the Off-Site Mitigation Zone.

Although impacts will occur within the buffer of the San Luis Rey River and the general creek/tributary buffer proposed by the Oceanside Subarea Plan, impacts will occur primarily within agricultural land (0.58 acres), developed land (0.36 acres), and disturbed habitat (0.31 acres). The remaining impacts are to 0.08 acres of mulefat scrub. Impacts within the buffer are required for necessary improvements to City stormwater infrastructure, which is an allowable use and does not fall under one of the three prohibited uses within the buffer (see Section 5.2.4 of the Oceanside Subarea Plan). Because the proposed project would mitigate these direct impacts, the proposed project would not result in a loss of vegetation that is regionally significant; therefore, it would not contribute to a cumulative impact.

A small portion of the project site is within the Agricultural Exclusion Zone north of the San Luis Rey River as defined in Section 5.3.3 of the Oceanside Subarea Plan. Discretionary actions, conversions to nonagricultural uses, or removal of habitat within the Agricultural Exclusion Zone will be subject to the conservation guidelines listed in Section 5.3.3, and to the Citywide conservation policies presented in Section 5.2, of the Oceanside Subarea Plan. Land use within the Agricultural Exclusion Zone will not change as a result of the proposed project. Impacts within the Agricultural Exclusion Zone are limited to a strip of disturbed habitat along the northern shoulder of North River Road and will not disturb or remove any wildlife habitat.

7 Mitigation Measures

There would be potential direct and indirect significant impacts to sensitive vegetation communities, special-status wildlife species, and jurisdictional resources with implementation of the project.

7.1 Minimization and Mitigation Measures

The following mitigation measures shall be implemented during the proposed project to reduce the significant impacts identified in Chapter 6, Project Impacts, to a less-than-significant level. Significant direct and indirect impacts to special-status species, sensitive vegetation communities and jurisdictional resources can be mitigated to less than significant with implementation of the following measures:

MM-BIO-1 Minimize Construction-Related Indirect Impacts to Biological Resources. Prior to issuance of a grading permit, the Project's Applicant/Developer shall include the following in the construction contractor's plans and specifications to address indirect construction-related impacts to special-status species:

- **Delineation of Property Boundaries.** Before beginning activities that would cause impacts, the contractor shall, in consultation with the biological monitor, clearly delineate the boundaries with fencing, stakes, or flags, consistent with the grading plan, within which the impacts will take place. All impacts outside the fenced, staked, or flagged areas shall be avoided, and all fencing, stakes, and flags shall be maintained until the completion of impacts in that area. In addition, any avoided environmental resources shall be clearly delineated. Prior to implementing construction activities, the biological monitor shall verify that the flagging clearly delineates the construction limits and any sensitive environmental resources to be avoided.
- **Standard Dust Control Measures.** Standard dust control measures as per the South Coast Air Quality Management District shall be implemented to reduce dust impacts on nearby conserved lands, plants, and wildlife. Measures include controlling speed to 15 mph or less on unpaved roads, replacing ground cover in disturbed areas as quickly as possible, frequently watering active work sites, installing shaker plates, and suspending excavation and grading operations during periods of high winds.
- **Stormwater Pollution Prevention Plan.** Prior to issuance of a grading permit for construction, the applicant shall submit a stormwater pollution prevention plan (SWPPP) to the City of Oceanside that specifies best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving off site and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Best management practices categories employed on site would include erosion control, sediment control, and non-stormwater (good housekeeping).
- **Minimize Spills of Hazardous Materials.** All vehicles and equipment shall be maintained in proper condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Hazardous spills and contaminated soil shall be immediately cleaned up and the contaminated soil shall be properly handled or

disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated staging area.

- **Wildlife Hazards.** The following measures shall be implemented to ensure that wildlife do not become trapped, entangled, injured, or poisoned by construction activities:
  - Structures in which wildlife may become trapped (e.g., open pipes, pits, trenches) shall be tightly covered at the end of each work day. If covering the structure is not possible, an escape ramp shall be provided to allow any wildlife that falls in to safely escape.
  - Debris piles, construction materials, equipment, and other items that may be used as wildlife refuge shall be inspected for wildlife at the start of each work day and prior to disturbance. If wildlife is discovered, it shall either be moved out of harm's way by a qualified biologist or allowed to move off of the study area on its own.
  - Nets and mesh shall be made of loose-weave material that is not fused at the intersections of the weave, as nets with welded weaves present an entanglement risk.
  - Toxic materials and garbage shall be removed from the work site and safely stored or disposed of at the end of each work day.

  Night Work. All short-term construction lighting shall be facing active work areas only and shall be shielded to avoid light spillover and shall be directed away from adjacent open space areas to protect native wildlife from direct lighting. If lighting is required during construction activities that would occur during or after sunset, the lighting fixtures shall be located on the interior of work areas with a minimum of 50-foot buffer from the edge of adjacent open space.

MM-BIO-2 Biological Monitoring. To prevent inadvertent disturbance to areas outside the limits of grading, all project activities with the potential to impact native vegetation shall be monitored by a biologist. The biological monitor(s) shall be contracted to perform biological monitoring during all vegetation removal activities and periodic monitoring during and after vegetation removal when recommended by a Qualified Biologist. The project biologist(s) also shall do the following:

a. Attend the pre-construction meeting with the contractor and other key construction personnel prior to construction activities to reduce conflict between the timing and location of construction activities with other mitigation requirements (e.g., seasonal surveys for nesting birds).
b. The Qualified Biologist shall conduct a training session for all project personnel prior to any construction activities. At a minimum the training shall include a description of the target species of concern, its habitats, the general provisions of the Endangered Species Act (Act) and the MHCP, the need to adhere to the provision of the Act and the MHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the target species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished. Prior to clearing and grubbing, the project biologist shall conduct meetings with the contractor and other key construction personnel each morning prior to construction activities to go over the proposed activities for the day, and for the monitor(s) to describe the importance of restricting work to designated areas and of minimizing harm to or harassment of wildlife.

c. Review and/or designate the construction area in the field with the contractor in accordance with the final grading plan prior to activities.

d. Supervise and monitor construction activities weekly to ensure against direct and indirect impacts to biological resources that are intended to be protected and preserved and to document that protective fencing is intact.

e. Flush wildlife species (e.g., reptiles, mammals, avian, and other mobile species) from occupied habitat areas immediately prior to brush-clearing activities. This does not include disturbance to nesting birds (see MM-BIO-3) or "flushing" of federally listed species (i.e., coastal California gnatcatcher).

f. Periodically monitor the construction site to verify that the project is implementing the following stormwater pollution prevention plan best management practices: dust control, silt fencing, removal of construction debris and a clean work area, covered trash receptacles that are animal-proof and weather-proof, prohibition of pets on the construction site, and a speed limit of 15 miles per hour.

g. Periodically monitor the construction site after grading is completed and during the construction phase to see that artificial security light fixtures are directed away from open space and are shielded, and to document that no unauthorized impacts have occurred.

h. If dead or injured federally and/or state-listed species are found on site, the City, CDFW, and/or USFWS will be notified in compliance with applicable laws and regulations.

i. Keep monitoring notes for the duration of project construction for submittal in a final report to substantiate the biological supervision of the vegetation clearing and grading activities and the protection of biological resources.

j. Prepare a monitoring report after construction activities are completed that describes the biological monitoring activities, including a monitoring log; photos of the site before, during, and after the grading and clearing activities; and a list of special-status species observed.

k. Halt work, if necessary, and confer with the City of Oceanside to ensure the proper implementation of special-status species and sensitive resource protection measures.

l. Submit a final report to the City of Oceanside within 60 days of project completion that includes as-built construction drawings with an overlay of habitat that was impacted and avoided, photographs of habitat areas that were to be avoided, and other relevant summary information documenting that authorized impacts were not exceeded and that compliance with all measures was achieved.

DOCUMENTATION: The applicant shall provide a letter of agreement with this condition to the City of Oceanside. **TIMING:** Prior to final grading release. **MONITORING:** The City of Oceanside shall review the concurrence letter.

MM-BIO-3 Nesting Bird Surveys. Construction-related ground-disturbing activities (e.g., clearing/grubbing, grading, and other intensive activities) that occur during the avian breeding season (typically February 1 through September 15) shall require a one-time biological survey for nesting bird species to be conducted within the limits of grading and a 500-foot buffer (where feasible) within 72 hours prior to construction. This survey is necessary to ensure avoidance of impacts to nesting raptors and other birds protected by the federal Migratory Bird Treaty Act and California Fish and

Game Code Sections 3503 and 3513. If any active nests are detected, the area shall be flagged and mapped on the construction plans or a biological resources figure, and the information provided to the construction supervisor and any personnel working near the nest buffer. Active nests shall have avoidance buffers established around them (e.g., 250 feet for passerines to 500 feet for raptors) by the project biologist in the field with brightly colored flagging tape, conspicuous fencing, or other appropriate barriers or signage. The project biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to avoid inadvertent impacts to these nests. The project biologist may adjust the 250-foot or 500-foot buffer at their discretion depending on the species and the location of the nest (e.g., if the nest is well protected in an area buffered by dense vegetation). However, if needed, additional qualified monitor(s) shall be provided to monitor active nest(s) or other project activities in order to ensure all of the project biologist's duties are completed. Once the nest is determined by a qualified monitor to be no longer occupied for the season, construction may proceed in the buffer areas.

If construction activities, particularly clearing/grubbing, grading, and other intensive activities, stop for more than 3 days, an additional nesting bird survey shall be conducted within the proposed work area and a 500-foot buffer, where feasible.

DOCUMENTATION: The applicant shall provide a letter of agreement with this condition to the City of Oceanside. **TIMING:** Prior to pre-construction conference and prior to any clearing, grubbing, trenching, grading, or any land disturbances and throughout the duration of the grading, compliance with this condition is mandatory unless the requirement is waived by the City of Oceanside upon receipt of concurrence from the Wildlife Agencies. **MONITORING:** The City of Oceanside shall review the concurrence letter.

MM-BIO-4 Compensation for Unavoidable Loss of Aquatic Resources. If temporary or permanent loss of protected wetlands and other aquatic resources cannot feasibly be avoided, the project proponent will implement the following actions:

- Prior to project activities, the project proponent will coordinate with the USACE Los Angeles District and San Diego RWQCB staff to assure conformance with permitting requirements of Section 401 and 404 of the Clean Water Act and the Porter–Cologne Water Quality Control Act. Prior to activity within CDFW-jurisdictional lake or streambed or associated riparian habitat, the project proponent will coordinate with the appropriate CDFW South Coast Region staff to assure conformance with California Fish and Game Code Section 1600 permitting requirements.
- As part of the permit application process, the project proponent will sufficiently mitigate to ensure no-net-loss of waters at a minimum of 1:1 with establishment or re-establishment for impacts on aquatic resources as a part of an overall strategy to ensure no net loss. If establishment or re-establishment mitigation is not available, a higher ratio may be needed to achieve no net loss. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with USACE, RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.
- Should applicant-sponsored mitigation be implemented, a mitigation and monitoring plan (Plan) will be prepared in accordance with resource agency guidelines and approved by the agencies in accordance with the proposed permits. The Plan will include but is not limited to a

conceptual planting plan including planting zones, grading, and irrigation, as applicable; a conceptual planting plant palette; a long-term maintenance and monitoring plan; annual reporting requirements; proposed success criteria; legal and funding mechanisms; and parties responsible for long-term management and monitoring of the restored or enhanced habitat. Any off-site applicant-sponsored mitigation shall be conserved and managed in perpetuity

- As part of the permit application process, the project proponent will mitigate impacts to sensitive riparian vegetation communities to a less than significant level through preservation of the requisite habitat in perpetuity. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with USACE, RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.
- Best management practices shall be implemented to avoid any indirect impacts to jurisdictional waters, as follows:
    1. Vehicles and equipment shall not be operated in ponded or flowing water except as described in permits.
    2. Water containing mud, silt, or other pollutants from grading or other activities shall not be allowed to enter jurisdictional waters or be placed in locations that may be subjected to high storm flows.
    3. Spoil sites shall not be located within 30 feet from the boundaries of jurisdictional waters or in locations that may be subject to high storm flows where spoils might be washed back into drainages.
    4. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources resulting from Proposed Project-related activities shall be prevented from contaminating the soil and/or entering avoided jurisdictional waters.
    5. No equipment maintenance shall be performed within 100 feet of jurisdictional waters, including wetlands and riparian areas, where petroleum products or other pollutants from the equipment may enter these areas. Fueling of equipment shall not occur on the project site.

7.2 Regional Resource Planning Context – Compliance Review

City of Oceanside MHCP Subarea Plan

The proposed project is consistent with the requirements of the draft Oceanside Subarea Plan. Specifically, as required in Section 5.3.4 of the Oceanside Subarea Plan, the project will mitigate for impacts to special-status biological resources with mitigation within the Wildlife Corridor Planning Zone or pre-approved Mitigation Areas (City of Oceanside 2010). The proposed project will directly impact 0.08 acres of vegetation communities that would require mitigation under the plan.

These vegetation communities function as a small piece of a larger habitat corridor along the San Luis Rey River. Therefore, mitigation occurring within the riparian corridor of the San Luis Rey River would provide preservation of

biologically equivalent or superior habitat, as well as fulfilling the requirements of the Oceanside Subarea Plan for habitat in the Off-Site Mitigation Zone.

Project Implementation Guidelines

Section 5.2.8 of the Oceanside MHCP Subarea Plan contains minimization measures and best management practices that shall be implemented by projects that may impact biological resources within the City of Oceanside.

Conditions of Coverage for Cooper's Hawk

As part of the project review process (e.g., CEQA) for individual projects within the MHCP area, qualified biologists must survey all potential nesting areas during the nesting season. Surveys must be conducted when impacts could occur as a result of direct or indirect impacts from a project in or adjacent to suitable habitat. Preserve/open space areas must include 300-foot biological buffers around nest sites where feasible. No direct impact to active nests are allowed during the nesting season (City of Oceanside 2010).

Avoiding tree pruning activities in or near preserve areas during the breeding season (March 1 through July 31) will not be feasible if the work activities take place during breeding season (City of Oceanside 2010).

Nesting bird surveys are included as a mitigation measure for the project and include surveying for Cooper's hawk and other raptor nests. A 300-foot buffer would be established around any active nests detected during these surveys.

Conditions of Coverage for Coastal California Gnatcatcher

In addition to minimum conservation requirements, all of the following conditions must be met for California gnatcatcher to be adequately conserved (City of Oceanside 2010):

1. Implement an adaptive management program to comprehensively monitor and manage gnatcatcher habitat and populations throughout the preserve system. Increased coordination of monitoring and management may improve knowledge of species' requirements and habitat quality in the study area.

Coastal California gnatcatcher was determined to have low potential to occur in the study area adjacent to direct impacts, but does not have potential to occur within the direct impact areas due to lack of suitable habitat.

2. Take of occupied gnatcatcher habitat must be mitigated according to approved MHCP (Volume I, Section 4.3) or subarea plan ratios using one or more of the following measures: (a) conservation of occupied gnatcatcher habitat inside the BCLA [Biological Core and Linkage Area] or in the unincorporated core area; (b) conservation of linkage areas identified by the MHCP as critical to regional gnatcatcher population connectivity (whether or not such areas are currently occupied by gnatcatchers or vegetated with coastal sage scrub); or (c) restoration of gnatcatcher habitat within critical breeding or linkage areas identified by the MHCP.

Suitable habitat for Coastal California gnatcatcher is not present within the direct impact areas; therefore, the proposed project will not result in take of any occupied gnatcatcher habitat.

3. Oceanside—Conserve at least 664 acres of existing coastal sage scrub in the city, and restore or enhance at least 164 additional acres of coastal sage scrub. Within the city's designated Wildlife Corridor Planning Zone, conserve at least 480 acres of biological open space in a configuration that accommodates continued movement by California gnatcatchers between State Route 78 and the San Luis Rey River. Of this 480-acre total, conserve at least 210 acres of existing gnatcatcher breeding habitat (coastal sage scrub), and increase the net amount of viable breeding habitat within the zone by at least 145 acres through restoration of disturbed, developed, or annual grassland habitats to coastal sage scrub in key locations (Note: Acreages conserved and restored within the Wildlife Corridor Planning Zone count towards the 664 total coastal sage scrub and 164 total restoration acreage requirements for the city.) Conserve 120 acres of contiguous biological open space on the western portion of the city-owned El Corazon property, including at least 45 acres west of the San Diego Gas and Electric transmission easement and 75 acres along Garrison Creek on the northern portion of the property, as detailed in the Oceanside Subarea Plan.

The study area is not within the Wildlife Corridor Planning Zone.

Conditions of Coverage for Least Bell's Vireo

Conditions of coverage for least Bell's vireo from the Oceanside Subarea Plan are as follows (City of Oceanside 2010):

1. As part of the project review process (e.g., CEQA) for individual projects within the MHCP area, a qualified biologist possessing a Section 10(a)1(A) research permit for this species must survey all areas containing potentially suitable habitat (riparian vegetation communities) using approved survey protocols. Surveys shall occur prior to any proposed impact regardless of location inside or outside of the FPA [Focused Planning Area]. Surveys shall be conducted when impacts could occur as a result of indirect impacts by placement of the project in or adjacent to suitable habitat or through creation of suitable conditions for brown-headed cowbirds (e.g., agricultural fields, livestock presence, woodland parks, and roadsides).
2. Any take, both inside and outside of the FPA, shall be consistent with the conditions outlined herein. Projects that impact least Bell's vireo populations outside the FPA shall be required to ensure sufficient management to maintain these populations.
3. Occupied habitat within the FPA shall be managed to restrict activities that could degrade least Bell's vireo habitat, including livestock grazing, human disturbance, clearing or alteration of riparian vegetation, brown-headed cowbird parasitism, and insufficient water levels leading to loss of riparian habitat and surface water. Area-specific management directives shall include measures to provide appropriate successional habitat, cowbird control, and specific measures to protect against detrimental edge effects, and will remove invasive exotic species (e.g., *Arundo donax*). Initiate cowbird trapping when cowbird parasitism rates exceed 10% or as recommended by monitoring results. Restrict human access to vireo-occupied habitat during the breeding season (March 15 to September 15) except for qualified researchers or land managers performing essential preserve management, monitoring, or research functions.
4. Projects having direct or indirect impacts to the least Bell's vireo within the MHCP planning area shall adhere to the following measures to avoid or reduce impacts:

a) The removal of native vegetation and habitat shall be avoided and minimized to the maximum extent practicable. Determination of adequate avoidance and minimization of impacts shall be consistent with Sections 3.6 and 3.7 of the MHCP plan. Deviations from these guidelines shall require written concurrence of the USFWS and CDFG [now CDFW]. For temporary impacts, the work site shall be returned to preexisting contours and revegetated with appropriate native species. All revegetation for temporary and permanent impacts shall occur at the ratios specified in Section 4.3 of the MHCP plan, with a minimum 3:1 ratio for recreation of occupied or potential vireo habitat. Revegetation specifications shall ensure creation and restoration of riparian woodland vegetation to vireo quality. All revegetation plans shall be prepared and implemented consistent with Appendix C (Revegetation Guidelines) and shall require written concurrence of the USFWS and CDFG. If written objections are not provided by the wildlife agencies within 30 days of receipt of written request for concurrence by the local jurisdiction, then the deviation may proceed as approved by the local agency. The wildlife agencies shall provide written comments specifying wildlife agency concerns.

b) Projects shall be carried out consistent with Appendix B (Standard Best Management Practices).

c) Projects shall to the maximum extent practicable avoid impacts during the breeding season of the least Bell's vireo (generally March 15–September 15). Projects that cannot be conducted without placing equipment or personnel in or adjacent to sensitive habitats shall be timed to ensure that habitat is removed prior to the initiation of the breeding season (generally before March 15).

d) Construction noise levels at the riparian canopy edge shall be kept below 60 dBA L_{eq} (Measured as Equivalent Sound Level) from 5 a.m. to 11 a.m. during the peak nesting period of March 15 to July 15. For the balance of the day/season, the noise levels shall not exceed 60 decibels, averaged over a 1-hour period on an A-weighted decibel (dBA) (i.e., 1 hour L_{eq}/dBA). Noise levels shall be monitored and monitoring reports shall be provided to the jurisdictional city, the USFWS, and the CDFG. Noise levels in excess of this threshold shall require written concurrence from the USFWS and CDFG and may require additional minimization/mitigation measures.

e) Brown-headed cowbirds and other exotic species detrimental to least Bell's vireo shall be removed from the site. For new developments adjacent to preserve areas that create conditions attractive to brown-headed cowbirds, jurisdictions shall require monitoring and control of cowbirds.

f) Biological buffers of at least 100 feet shall be maintained adjacent to occupied least Bell's vireo habitat, measured from the outer edge of riparian vegetation. Within this 100-foot buffer, no new development shall be allowed, and the area shall be managed for natural biological values as part of the preserve system. Buffers less than 100 feet shall require written concurrence of the USFWS and CDFG within 30 days of receipt of written request for concurrence by the local jurisdiction.

5. Suitable unoccupied habitat preserved within the FPA shall be managed to maintain or mimic effects of natural fluvial processes (e.g., periodic substrate scouring and deposition).

6. Natural riparian connections with upstream riparian habitat shall be maintained to ensure linkage to suitable occupied and unoccupied habitat within the County [of San Diego] MSCP [Multiple Species Conservation Program Plan] and City of San Diego MSCP Subarea Plan [areas].

Suitable nesting habitat for least Bell's vireo is present within the San Luis Rey River riparian corridor in the southern part of the impact area. Furthermore, this species was documented within the study area in 2013, and USFWS-designated Critical Habitat for this species overlaps the study area. As such, there is high potential for this species to occur within the study area. Direct impacts to all nesting birds, which would include least Bell's vireo if the species were present, would be avoided through implementation of MM-BIO-1 (Minimize Construction-Related Indirect Impacts to Biological Resources), MM-BIO-2 (Biological Monitoring), and MM-BIO-3 (Nesting Bird Surveys).

Conditions of Coverage for Southwestern Willow Flycatcher

Conditions of coverage for southwestern willow flycatcher from the Oceanside Subarea Plan are as follows (City of Oceanside 2010):

1. As part of the project review process (e.g., CEQA) for individual projects within the MHCP area, a qualified biologist possessing a Section 10(a)1(A) research permit for this species must survey all areas containing suitable habitat (riparian woodlands and forests) using approved survey protocols. Surveys shall be conducted when impacts could occur as a result of indirect impacts by placement of the project in or adjacent to potential habitat or through creation of suitable conditions for brown-headed cowbirds (e.g., agricultural fields, livestock presence, woodland parks, roadsides). Surveys shall occur prior to any proposed impact regardless of location inside or outside of the FPA.
2. Nesting southwestern willow flycatchers shall be treated consistent with the Critical Population Policy (Appendix D) and impacts totally avoided. Although southwestern willow flycatcher is not an MHCP Narrow Endemic, wintering localities and confirmed vagrants shall be treated consistent with the Narrow Endemic Species Policy (Appendix D), including the following: (a) maximum avoidance of impacts, to the degree feasible while maintaining reasonable use of the property; (b) for unavoidable impacts, species-specific mitigation designed to minimize adverse effects to species viability and to contribute to species recovery; and (c) no more than 5% gross cumulative loss of suitable habitat inside the FPA or 20% gross cumulative loss outside the FPA.
3. Occupied habitat within the FPA shall be managed to restrict activities that could degrade willow flycatcher habitat, including livestock grazing, human disturbance, clearing or alteration of riparian vegetation, brown-headed cowbird parasitism, and insufficient water levels leading to loss of riparian habitat and surface water. Area-specific management directives shall include measures to provide appropriate successional habitat, cowbird control, and specific measures to protect against detrimental edge effects, and will remove invasive exotic species (e.g., *Arundo donax*). Human access to flycatcher-occupied habitat will be restricted during the breeding season (May 1–September 15) except for qualified researchers or land managers performing essential preserve management, monitoring, or research functions.
4. Projects having direct or indirect impacts to the southwestern willow flycatcher shall adhere to the following measures to avoid or reduce impacts:

a) The removal of native vegetation and habitat shall be avoided and minimized to the maximum extent practicable. Determination of adequate avoidance and minimization of impacts shall be consistent with Sections 3.6 and 3.7 of the MHCP plan. Deviations from these guidelines shall require written concurrence of the USFWS and CDFG. For temporary impacts, the work site shall be returned to preexisting contours and revegetated with appropriate native species. All revegetation for temporary and permanent impacts shall occur at the ratios specified in Section 4.3 of the MHCP plan, with a minimum 3:1 ratio for creation of occupied or potential willow flycatcher habitat. Revegetation specifications shall ensure creation and restoration of riparian woodland vegetation to a quality that eventually is expected to support nesting southwestern willow flycatchers, in the opinion of experts on this species, recognizing that it may take decades to achieve this state. All revegetation plans shall be prepared and implemented consistent with Appendix C (Revegetation Guidelines) and shall require written concurrence of the USFWS and CDFG. If written objections are not provided by the wildlife agencies within 30 days of receipt of written request for concurrence by the local jurisdiction, then the deviation may proceed as approved by the local agency. The wildlife agencies shall provide written comments specifying wildlife agency concerns.

b) Projects shall be carried out consistent with Appendix B (Standard Best Management Practices).

c) Projects shall to the maximum extent practicable avoid impacts during the breeding season of the flycatcher (May 1 to September 15). Projects that cannot be conducted without placing equipment or personnel in or adjacent to sensitive habitats shall be timed to ensure that habitat is removed prior to the initiation of the breeding season.

d) Construction noise levels at the riparian canopy edge shall be kept below 60 dBA L_{eq} (measured as equivalent sound level) from 5 a.m. to 11 a.m. during the peak nesting period of May 1 to September 15. For the balance of the day/season, the noise levels shall not exceed 60 decibels, averaged over a 1-hour period on an A-weighted decibel (dBA) (i.e., 1 hour L_{eq}/dBA). Noise levels shall be monitored, and monitoring reports shall be provided to the jurisdictional city, the USFWS, and the CDFG. Noise levels in excess of this threshold shall require written concurrence from the USFWS and CDFG within 30 days of receipt of request for written concurrence from the local jurisdiction and may require additional minimization/mitigation measures.

e) Brown-headed cowbirds and other exotic species that prey upon the flycatcher shall be removed from the site. For new developments adjacent to preserve areas that create conditions attractive to brown-headed cowbirds, jurisdictions shall require monitoring and control of cowbirds.

f) Biological buffers of at least 100 feet shall be maintained adjacent to occupied flycatcher habitat, measured from the outer edge of riparian vegetation. Within this 100-foot buffer, no new development shall be allowed, and the area shall be managed for natural biological values as part of the preserve system. Buffers less than 100 feet shall require written concurrence of the USFWS and CDFG within 30 days of receipt of request for written concurrence from the local jurisdiction.

5. Suitable unoccupied habitat preserved within the FPA shall be managed to maintain or mimic effects of natural fluvial processes (e.g., periodic substrate scouring and deposition).

6. Natural riparian connections with upstream riparian habitat shall be maintained to ensure linkage to suitable occupied and unoccupied habitat within the County MSCP and City of San Diego MSCP Subarea Plans.

Suitable nesting habitat for southwestern willow flycatcher is present within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented less than 0.25 miles from the study area in 2008. USFWS-designated Critical Habitat for the species is present within the San Luis Rey River corridor within the study area. This species has a high potential to occur within the riparian vegetation in the study area. Direct impacts to all nesting birds, which would include least Bell's vireo if the species were present, would be avoided through implementation of MM-BIO-1 (Minimize Construction-Related Indirect Impacts to Biological Resources), MM-BIO-2 (Biological Monitoring), and MM-BIO-3 (Nesting Bird Surveys).

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Appendix A
Study Area Photos



Photo 1. Overview of agricultural habitat surrounding Non-Wetland Water (NWW)-1.



Photo 2. View facing east of agricultural ditch (NWW-01b) from the east (Photo Point 1).



Photo 3. NWW-1 south of North River Road. Habitat surrounding this consists of dense mulefat.



Photo 4. NWW-1 south of North River Road. Habitat surrounding this consists of dense mulefat.



Photo 5. Agricultural habitat surrounding NWW-01. Photo facing northeast.



Photo 6. NWW-02, north of North River Road, facing north.



Photo 7. Developed habitat surrounding NWW-02 on the north side of North River Road. Photo facing southwest.

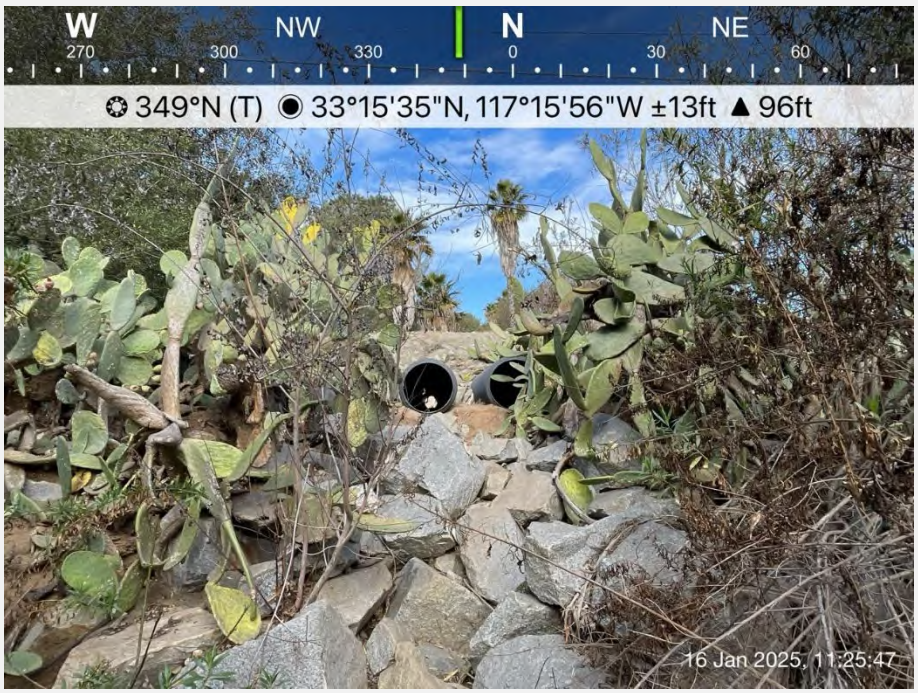


Photo 8. Culvert outlets and riprap of NWW-02 south of North River Road, facing north.



Photo 9. Habitat surrounding NWW-02 south of North River Road, facing southeast.



Photo 10. Beginning of NWW-3, south of North River Road, facing north.



Photo 11. NWW-04 south of North River Road, facing south into dense mulefat scrub.



Photo 12. NWW-04 south of North River Road, facing south by southwest, taken from within channel and dense mulefat scrub.



Photo 13. Disturbed habitat surrounding NWW-05 southwest of Sleeping Indian Road, facing northeast.

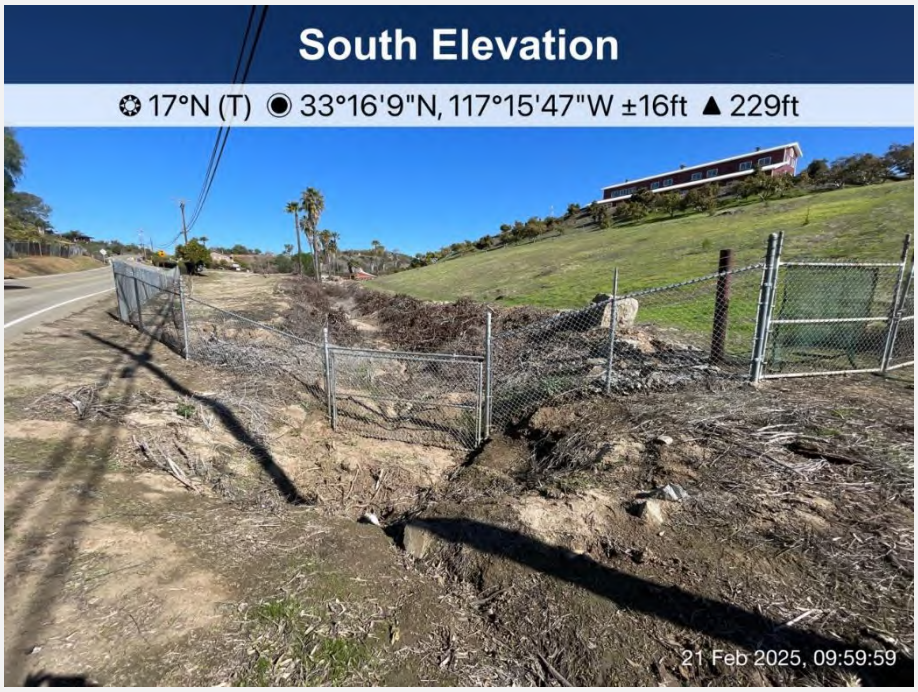


Photo 14. NWW-05 northeast of Sleeping Indian Road, facing south. Overview of disturbed habitat.

Appendix B
Plant and Wildlife Compendia

Plant Species

Angiosperms: Eudicots

ADOXACEAE—ADOXA FAMILY

Sambucus nigra ssp. *caerulea*—blue elderberry

AIZOACEAE—FIG-MARIGOLD FAMILY

* *Mesembryanthemum crystallinum*—crystalline iceplant

AMARANTHACEAE—AMARANTH FAMILY

Malosma laurina—laurel sumac

APIACEAE—CARROT FAMILY

* *Foeniculum vulgare*—sweet fennel*

ASTERACEAE—SUNFLOWER FAMILY

Ambrosia psilostachya—western ragweed

Artemisia californica—coastal sagebrush

Baccharis salicifolia ssp. *salicifolia*—mule-fat, seep-willow

Baccharis sarothroides—broom baccharis

Erigeron canadensis—horseweed

BRASSICACEAE—MUSTARD FAMILY

* *Hirschfeldia incana*—short-pod mustard

CHENOPODIACEAE—GOOSEFOOT FAMILY

* *Salsola tragus*—prickly russian-thistle, tumbleweed

EUPHORBIACEAE—SPURGE FAMILY

* *Ricinus communis*—castor bean

FAGACEAE—OAK FAMILY

Quercus agrifolia—coast live oak, encina

LAMIACEAE—MINT FAMILY

Salvia mellifera—black sage

ROSACEAE—ROSE FAMILY

Heteromeles arbutifolia—toyon, Christmas berry

SALICACEAE—WILLOW FAMILY

Salix laevigata—red willow

SOLANACEAE—NIGHTSHADE FAMILY

* *Nicotiana glauca*—tree tobacco

TAMARICACEAE—TAMARISK FAMILY

* *Tamarix ramosissima*—saltcedar

Angiosperms: Monocots

ARECACEAE—PALM FAMILY

* *Washingtonia robusta*—Mexican fan palm

POACEAE—GRASS FAMILY

* *Arundo donax*—giant reed

Wildlife Species

Birds

Bushtits

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

Finches

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

Spinus psaltria—lesser goldfinch

Flycatchers

TYRANNIDAE—TYRANT FLYCATCHERS

Sayornis nigricans—black phoebe

Hawks

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis—red-tailed hawk

Hummingbirds

TROCHILIDAE—HUMMINGBIRDS

calypte anna—Anna's hummingbird

Jays, Magpies and Crows

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay

New World Vultures

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

Pigeons and Doves

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—mourning dove

Wood Warblers and Allies

PARULIDAE—WOOD-WARBLERS

Setophaga coronata—yellow-rumped warbler

Wrens

TROGLODYTIDAE—WRENS

Thryomanes bewickii—Bewick's wren

New World Sparrows

PASSERELLIDAE—NEW WORLD SPARROWS

Melozone crissalis—California towhee

Zonotrichia leucophrys—white-crowned sparrow

* signifies introduced (non-native) species

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Appendix C

Assessment of Special-Status Plant Species Potentially Occurring in the Study Area

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Abronia villosa var. *aurita*	chaparral sand-verbena	None/None/ 1B.1	Chaparral, Coastal scrub, Desert dunes; Sandy/annual herb/(Jan)Mar–Sep/245–5,250	None	**Not expected to occur within the project area; low potential to occur within the study area.** Coastal sage scrub habitat is present within the study area; however, this species usually prefers sandier soils than those that are present within the study area.
Acanthomintha ilicifolia	San Diego thorn-mint	FT/SE/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay, Openings/annual herb/Apr–June/ 35–3,150	Covered	Not expected to occur. No vernal pools or clay soils are present within the study area.
Acmispon prostratus	Nuttall's acmispon	None/None/ 1B.1	Coastal dunes, Coastal scrub (sandy)/annual herb/Mar–June(July)/0–35	Covered	Not expected to occur. The site is outside of the species' known elevation range.
Adolphia californica	California adolphia	None/None/ 2B.1	Chaparral, Coastal scrub, Valley and foothill grassland; Clay/perennial deciduous shrub/Dec–May/35–2,430	None	**Not expected to occur within the project area; moderate potential to occur within the study area.** Coastal sage scrub habitat is present within the study area.
Agave shawii var. *shawii*	Shaw's agave	None/None/ 2B.1	Coastal bluff scrub, Coastal scrub/perennial leaf/Sep–May/ 10–395	None	**Not expected to occur within the project area; moderate potential to occur within the study area.** Coastal sage scrub habitat is present within the study area.
Allium marvinii	Yucaipa onion	None/None/ 1B.2	Chaparral (clay, openings)/perennial bulbiferous herb/Apr–May/ 2,495–3,495	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Ambrosia pumila	San Diego ambrosia	FE/None/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Alkaline (sometimes), Clay (sometimes), Disturbed areas (often), Loam (sometimes), Sandy (sometimes)/perennial rhizomatous herb/Apr–Oct/65–1,360	Covered	Not expected to occur. Coastal sage scrub habitat and disturbed areas are present within the study area. However, this species was not observed during the biological reconnaissance survey, and no CNDDB records other than those within management preserves are present within 5 miles of the study area.
Aphanisma blitoides	aphanisma	None/None/ 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/annual herb/Feb–June/5–1,000	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar manzanita	FE/None/1B.1	Chaparral (maritime, sandy)/perennial evergreen shrub/June–Apr/0–1,200	None	Not expected to occur. No suitable vegetation present.
Arctostaphylos rainbowensis	Rainbow manzanita	None/None/ 1B.1	Chaparral/perennial evergreen shrub/Dec–Mar/675–2,200	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Astragalus tener var. *titi*	coastal dunes milk-vetch	FE/SE/1B.1	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie (mesic); Mesic (often), Vernally Mesic (often)/annual herb/Mar–May/5–165	None	Not expected to occur. No suitable vegetation present.
Atriplex coulteri	Coulter's saltbush	None/None/ 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; Alkaline (sometimes), Clay (sometimes)/perennial herb/Mar–Oct/10–1,510	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Atriplex pacifica	south coast saltscale	None/None/ 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/Mar–Oct/0–460	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Baccharis vanessae	Encinitas baccharis	FT/SE/1B.1	Chaparral (maritime), Cismontane woodland; Sandstone/perennial deciduous shrub/Aug–Nov/195–2,360	None	Not expected to occur. No suitable vegetation present.
Berberis nevinii	Nevin's barberry	FE/SE/1B.1	Chaparral (maritime), Cismontane woodland, Coastal scrub, Riparian scrub; Gravelly (sometimes), Sandy (sometimes)/perennial evergreen shrub/(Feb)Mar–June/230-2,705	None	**Not expected to occur within the project area; low potential to occur within the study area**. Riparian habitat is present within the study area, and within a small portion of the project area. The areas of riparian habitat which may be directly impacted by the project were assessed during the biological reconnaissance survey, and this species was not detected.
Bloomeria clevelandii	San Diego goldenstar	None/None/ 1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay/perennial bulbiferous herb/Apr–May/165–1,525	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Brodiaea filifolia	thread-leaved brodiaea	FT/SE/1B.1	Chaparral (openings), Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, Vernal pools; Clay (often)/perennial bulbiferous herb/Mar–June/80–3,675	Covered	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Brodiaea orcuttii	Orcutt's brodiaea	None/None/ 1B.1	Chaparral, Cismontane woodland, Closed-cone coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools; Clay, Mesic/perennial bulbiferous herb/ May–July/100–5,550	None	Not expected to occur. No suitable vegetation present.
Ceanothus cyaneus	Lakeside ceanothus	None/None/ 1B.2	Chaparral, Closed-cone coniferous forest/perennial evergreen shrub/ Apr–June/770–2,475	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Ceanothus verrucosus	wart-stemmed ceanothus	None/None/ 2B.2	Chaparral/perennial evergreen shrub/Dec–May/5–1,245	None	Not expected to occur. No suitable vegetation present.
Centromadia parryi ssp. *australis*	southern tarplant	None/None/ 1B.1	Marshes and swamps (margins), Valley and foothill grassland (vernally mesic), Vernal pools/annual herb/May–Nov/ 0–1,575	None	Not expected to occur. No suitable vegetation present.
Centromadia pungens ssp. *laevis*	smooth tarplant	None/None/ 1B.1	Chenopod scrub, Meadows and seeps, Playas, Riparian woodland, Valley and foothill grassland; Alkaline/annual herb/Apr–Sep/0–2,100	None	Not expected to occur. No suitable vegetation present.
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/None/1 B.1	Coastal bluff scrub (sandy), Coastal dunes/annual herb/Jan–Aug/0–330	None	Not expected to occur. No suitable vegetation present.
Chorizanthe orcuttiana	Orcutt's spineflower	FE/SE/1B.1	Chaparral (maritime), Closed-cone coniferous forest, Coastal scrub; Openings, Sandy/annual herb/Mar–May/10–410	None	**Not expected to occur within the project area; moderate potential to occur within the study area.** Coastal sage scrub habitat is present within the study area.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	None/None/ 1B.2	Chaparral, Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; Clay (often)/annual herb/Apr–July/100–5,020	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	None/None/ 1B.2	Chaparral, Cismontane woodland/perennial evergreen shrub/Apr–June/100–2,590	None	Not expected to occur. No suitable vegetation present.
Corethrogyne filaginifolia var. *linifolia*	Del Mar Mesa sand aster	None/None/ 1B.1	Chaparral (maritime, openings), Coastal bluff scrub, Coastal scrub; Sandy/perennial herb/May–Sep/ 15–490	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Cryptantha wigginsii	Wiggins' cryptantha	None/None/ 1B.2	Coastal scrub; Clay (often)/annual herb/Feb–June/65–900	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None/None/ 1B.1	Chaparral, Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; Clay (often), Rocky, Serpentinite/perennial herb/Apr–June/15–1,475	Covered	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Dudleya multicaulis	many-stemmed dudleya	None/None/ 1B.2	Chaparral, Coastal scrub, Valley and foothill grassland; Clay (often)/perennial herb/Apr–July/50–2,590	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Dudleya variegata	variegated dudleya	None/None/ 1B.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay/perennial herb/Apr–June/10–1,905	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Dudleya viscida	sticky dudleya	None/None/ 1B.2	Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub; Rocky/perennial herb/May–June/35–1,805	Covered	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Ericameria palmeri var. *palmeri*	Palmer's goldenbush	None/None/ 1B.1	Chaparral, Coastal scrub; Mesic/perennial evergreen shrub/(July)Sep–Nov/100–1,970	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/SE/1B.1	Coastal scrub, Valley and foothill grassland, Vernal pools; Mesic/annual/perennial herb/Apr–June/65–2,035	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Eryngium pendletonense	Pendleton button-celery	None/None/ 1B.1	Coastal bluff scrub, Valley and foothill grassland, Vernal pools; Clay, Vernally Mesic/perennial herb/Apr–June(July)/50–360	None	Not expected to occur. No suitable vegetation present.
Erysimum ammophilum	sand-loving wallflower	None/None/ 1B.2	Chaparral (maritime), Coastal dunes, Coastal scrub; Openings, Sandy/perennial herb/Feb–June(July–Aug)/0–195	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Euphorbia misera	cliff spurge	None/None/ 2B.2	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub; Rocky/perennial shrub/(Oct)Dec–Aug/35–1,640	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Ferocactus viridescens	San Diego barrel cactus	None/None/ 2B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/perennial stem/May–June/ 10–1,475	Covered	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Hazardia orcuttii	Orcutt's hazardia	None/ST/1B.1	Chaparral (maritime), Coastal scrub; Clay (often)/perennial evergreen shrub/Aug–Oct/260–280	Covered	Not expected to occur. The site is outside of the species' known elevation range.
Heterotheca sessiliflora ssp. *sessiliflora*	beach goldenaster	None/None/ 1B.1	Chaparral (coastal), Coastal dunes, Coastal scrub/perennial herb/Mar–Dec/0–4,020	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Horkelia truncata	Ramona horkelia	None/None/ 1B.3	Chaparral, Cismontane woodland; Clay, Gabbroic/perennial herb/May–June/1,310–4,265	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Isocoma menziesii var. *decumbens*	decumbent goldenbush	None/None/ 1B.2	Chaparral, Coastal scrub (often disturbed areas, sandy)/perennial shrub/Apr–Nov/35–820	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Iva hayesiana	San Diego marsh-elder	None/None/ 2B.2	Marshes and swamps, Playas/perennial herb/Apr–Oct/0–1,640	Covered	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None/ 1B.1	Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb–June/5–4,005	None	Not expected to occur. No suitable vegetation present.
Leptosyne maritima	sea dahlia	None/None/ 2B.2	Coastal bluff scrub, Coastal scrub/perennial herb/Mar–May/ 15–490	None	**Not expected to occur within the project area; moderate potential to occur within the study area.** Coastal sage scrub habitat is present within the study area.
Monardella hypoleuca ssp. *lanata*	felt-leaved monardella	None/None/ 1B.2	Chaparral, Cismontane woodland/perennial rhizomatous herb/June–Aug/985–5,170	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Nama stenocarpa	mud nama	None/None/ 2B.2	Marshes and swamps (lake margins, riverbanks)/annual/perennial herb/Jan–July/15–1,640	None	Not expected to occur. No suitable vegetation present.
Navarretia fossalis	spreading navarretia	FT/None/1B.1	Chenopod scrub, Marshes and swamps (shallow freshwater), Playas, Vernal pools/annual herb/Apr–June/ 100–2,150	None	Not expected to occur. No suitable vegetation present.
Nemacaulis denudata var. *denudata*	coast woolly-heads	None/None/ 1B.2	Coastal dunes/annual herb/Apr–Sep/0–330	None	Not expected to occur. No suitable vegetation present.
Nemacaulis denudata var. *gracilis*	slender cottonheads	None/None/ 2B.2	Coastal dunes, Desert dunes, Sonoran desert scrub/annual herb/(Mar)Apr–May/-165–1,310	None	Not expected to occur. No suitable vegetation present.
Nolina cismontana	chaparral nolina	None/None/ 1B.2	Chaparral, Coastal scrub; Gabbroic (sometimes), Sandstone (sometimes)/perennial evergreen shrub/(Mar)May–July/460–4,185	None	Not expected to occur. The site is outside of the species' known elevation range.
Orcuttia californica	California Orcutt grass	FE/SE/1B.1	Vernal pools/annual herb/Apr–Aug/ 50–2,165	None	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Phacelia stellaris	Brand's star phacelia	None/None/ 1B.1	Coastal dunes, Coastal scrub/annual herb/Mar–June/5–1,310	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Pogogyne abramsii	San Diego mesa mint	FE/SE/1B.1	Vernal pools/annual herb/Mar–July/ 295–655	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/None/ 2B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland; Gravelly, Sandy/perennial herb/(July)Aug–Nov(Dec)/0–6,890	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Quercus dumosa	Nuttall's scrub oak	None/None/ 1B.1	Chaparral, Closed-cone coniferous forest, Coastal scrub; Clay, Loam, Sandy/perennial evergreen shrub/ Feb–Apr(May–Aug)/50–1,310	Covered	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Salvia munzii	Munz's sage	None/None/ 2B.2	Chaparral, Coastal scrub/perennial evergreen shrub/Feb–Apr/375–3,495	None	Not expected to occur. The site is outside of the species' known elevation range.
Senecio aphanactis	chaparral ragwort	None/None/ 2B.2	Chaparral, Cismontane woodland, Coastal scrub; Alkaline (sometimes)/annual herb/ Jan–Apr(May)/50–2,625	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Sidalcea neomexicana	salt spring checkerbloom	None/None/ 2B.2	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas; Alkaline, Mesic/perennial herb/Mar–June/ 50–5,020	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Sphaerocarpos drewiae	bottle liverwort	None/None/ 1B.1	Chaparral, Coastal scrub; Openings/ephemeral liverwort/N.A./295–1,970	None	Not expected to occur. The site is outside of the species' known elevation range.
Sphenopholis interrupta ssp. *californica*	prairie false oat	None/None/ 1B.1	Chaparral (coastal); Clay/annual herb/Apr/50–50	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Stemodia durantifolia	purple stemodia	None/None/ 2B.1	Sonoran desert scrub (often mesic, sandy)/perennial herb/(Jan)Apr–Dec/590–985	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Suaeda esteroa	estuary seablite	None/None/ 1B.2	Marshes and swamps (coastal salt)/perennial herb/(Jan–May)July–Oct/0–15	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Tetracoccus dioicus	Parry's tetracoccus	None/None/ 1B.2	Chaparral, Coastal scrub/perennial deciduous shrub/Apr–May/540–3,280	None	Not expected to occur. The site is outside of the species' known elevation range.

Notes:
Status Legend
Federal
FE: Federally listed endangered
FT: Federally listed as threatened
State
SE: State listed as endangered
ST: State listed as threatened
California Rare Plant Ranking (CRPR)
1B: Plants rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California but more common elsewhere
Threat Rank
.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 – Moderately threatened in California (20% to 80% of occurrences threatened/moderate degree and immediacy of threat)
.3 – Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Appendix D

Assessment of Special-Status Wildlife Species Potentially Occurring in the Study Area

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
Amphibians					
Anaxyrus californicus	arroyo toad	FE/SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	Covered	**Not expected to occur.** While riparian habitat is present within the study area, it is too thick with vegetation and lacks open sandbars, making it unsuitable for this species.
Spea hammondii	western spadefoot	FPT/SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	Covered	**Low potential to occur.** The U.S. Fish and Wildlife Service's National Wetlands Inventory mapper (USFWS 2025) displays a freshwater pond in the vicinity of the study area, and so marginal pond habitat may be present. However, there is no suitable upland estivation habitat within the study area.
Reptiles					
Anniella stebbinsi	southern California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation	None	**Low potential to occur.** While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			and moist sandy or loose, loamy soils		
Arizona elegans occidentalis	California glossy snake	None/SSC	Arid scrub, rocky washes, grasslands, chaparral, open areas with loose soil	None	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Aspidoscelis hyperythra	orange-throated whiptail	None/WL	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood	Covered	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	None	**Not expected to occur**. No suitable habitat is present.
Crotalus ruber	red diamondback rattlesnake	None/SSC	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	None	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and	None	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			annual grassland habitats		
Salvadora hexalepis virgultea	coast patch-nosed snake	None/SSC	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	None	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Thamnophis hammondii	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	None	**High potential to occur**. Suitable habitat is present within the San Luis Rey River corridor in the southern part of the study area.
Thamnophis sirtalis ssp. (Southern California coastal plain from Ventura County to San Diego County, and from sea level to about 850 meters)	south coast garter snake	None/SSC	Marsh and upland habitats near permanent water and riparian vegetation	None	**High potential to occur**. Suitable habitat is present within the San Luis Rey River corridor in the southern part of the study area.
Actinemys pallida	southwestern pond turtle	FPT/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Covered	**High potential to occur**. Suitable habitat is present within the San Luis Rey River corridor in the southern part of the study area.
Birds					
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other	Covered	**High potential to occur**. Suitable nesting and foraging habitat is present within the San Luis Rey River corridor in the southern part of the study area.

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			woodland habitats often near water		
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture	None	**Low potential to occur**. Marginal nesting habitat is present within riparian scrub in the study area.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Covered	**Moderate potential to occur**. Suitable coastal sage scrub habitat is present within the study area.
Aquila chrysaetos (nesting and wintering)	golden eagle	None/FP, WL	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	Covered	**Not expected to occur**. No suitable vegetation present.
Artemisiospiza belli belli	Bell's sage sparrow	None/WL	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses	Covered	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, this species prefers larger unfragmented patches of sage scrub than the isolated habitat present on site. Additionally, no

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			more open habitat in winter		chamise, a plant prevalent in this bird's preferred habitat, is present within the study area.
Buteo swainsoni (nesting)	Swainson's hawk	None/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	None	**Not expected to occur**. Study area is outside of species' range.
Campylorhynchus brunneicapillus sandiegensis (San Diego and Orange Counties only)	coastal cactus wren	None/SSC	Southern cactus scrub patches	None	**Low potential to occur**. While scattered *Opuntia* cactus species are present within the study area, they are not present to a degree that they provide quality habitat for this species.
Charadrius nivosus nivosus (nesting)	western snowy plover	FT, BCC/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Covered	**Not expected to occur**. No suitable vegetation present.
Circus hudsonius (nesting)	northern harrier	BCC/SSC	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent	None	**Not expected to occur**. No suitable nesting habitat is present.

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			wetlands, and other open habitats		
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	None	**Moderate potential to occur.** Potentially suitable riparian habitat is present and the species was documented approximately 5.25 miles to the northwest within the San Luis Rey River riparian corridor in 2011.
Elanus leucurus (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	None	**Not expected to occur.** No suitable vegetation present.
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Covered	**High potential to occur.** Suitable nesting habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented less than 0.25 miles from the study area in 2008 (CDFW 2025).
Icteria virens (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	Covered	**High potential to occur.** Suitable nesting habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented within the study area in 2003 (CDFW 2025).

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
Ixobrychus exilis (nesting)	least bittern	None/SSC	Nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic vegetation	None	**Not expected to occur**. No suitable vegetation present.
Laterallus jamaicensis coturniculus	California black rail	None/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	None	**Not expected to occur**. Study area is outside of species' range.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	BCC/SE	Nests and forages in coastal saltmarsh dominated by pickleweed (*Salicornia* spp.)	Covered	**Not expected to occur**. No suitable habitat is present within the study area.
Plegadis chihi (nesting colony)	white-faced ibis	None/WL	Nests in shallow marshes with areas of emergent vegetation; winter foraging in shallow lacustrine waters, flooded agricultural fields, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields, and estuaries	Covered	**Not expected to occur**. No suitable vegetation present.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often	Covered	**Low potential to occur**. While coastal sage scrub habitat is present, it is marginal and

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level		isolated from larger blocks of continuous habitat needed by this species. CNDDB records are present within the vicinity of the study area, but are generally from over 20 years ago and appear to be documented before these areas were developed.
Rallus obsoletus levipes	light-footed Ridgway's rail	FE/FP, SE	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Covered	**Not expected to occur.** No suitable vegetation present.
Riparia riparia (nesting)	bank swallow	None/ST	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration	None	**Not expected to occur.** No suitable nesting habitat is present within the study area.
Setophaga petechia (nesting)	yellow warbler	None/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	None	**Moderate potential to occur.** Suitable nesting habitat is present and species was documented within study area in 2003 (CDFW 2025).
Sternula antillarum browni (nesting colony)	California least tern	FE/FP, SE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Covered	**Not expected to occur.** No suitable habitat is present within the study area.
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of	Covered	**High potential to occur.** Suitable habitat is present within the study area and the species was

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			intermittent streams; forages in riparian and adjacent shrubland late in nesting season		documented within the study area in 2013 (CDFW 2025).
Fish					
Eucyclogobius newberryi	tidewater goby	FE/SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River	None	**Not expected to occur**. No suitable vegetation present.
Gila orcuttii	arroyo chub	None/SSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters (16 inches); substrates of sand or mud	None	**Not expected to occur**. No suitable vegetation present.
Mammals					
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	None	**Moderate potential to occur**. Trees and man-made structures for roosting are present within the study area. However, no trees or structures are expected to be felled within the project area.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None/None	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent	Covered	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			shrub, pinyon–juniper, and annual grassland		larger continuous blocks of habitat.
Choeronycteris mexicana	Mexican long-tongued bat	None/SSC	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon–juniper woodland; roosts in caves, mines, and buildings	None	**Not expected to occur.** No suitable habitat is present within the study area.
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	None	**Moderate potential to occur.** Trees and man-made structures for roosting, as well as riparian habitat, are present within the study area. However, no trees or roosting structures are expected to be felled within the project area.
Dasypterus xanthinus	western yellow bat	None/SSC	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	None	**Low potential to occur.** Riparian habitat is present within the study area.
Dipodomys stephensi	Stephens' kangaroo rat	FT/ST	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas	Covered	**Low potential to occur.** While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and	None	**Moderate potential to occur.** Trees and man-made structures for roosting are present within the study area. However, no

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels		trees or roosting structures are expected to be felled within the project area.
Leptonycteris yerbabuenae	lesser long-nosed bat	FPD/SSC	Sonoran desert scrub, semi-desert grasslands, lower oak woodlands	None	**Not expected to occur**. No suitable vegetation present.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/None	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Covered	**Moderate potential to occur**. Suitable habitat is present within the study area.
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	None	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Nyctinomops femorosaccus	pocketed free-tailed bat	None/SSC	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings	None	**Not expected to occur**. No suitable habitat is present.

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
Perognathus longimembris pacificus	Pacific pocket mouse	FE/SSC	fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	None	**Not expected to occur**. No suitable habitat is present.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	None	**Not expected to occur**. Vegetated areas within the study area are too dense for this species, in addition to preferred vegetation communities for this species within the study area being isolated.
Invertebrates					
Bombus crotchii	Crotch's bumble bee	None/SCE	Open grassland and scrub communities supporting suitable floral resources.	None	**Moderate potential to occur**. Suitable foraging habitat is present within the study area.
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	None	**Not expected to occur**. No vernal pools are present in the study area.
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	None	**Not expected to occur**. No vernal pools are present in the study area.
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	None	**Not expected to occur**. No suitable vegetation is present within the study area.

Notes:
Status Designations
Federal
BCC: USFWS—Birds of Conservation Concern
FC: Candidate for federal listing as threatened or endangered
FE: Federally listed as endangered
FPD: Federally proposed for delisting
FPT: Federally proposed for listing as threatened

FT: Federally listed as threatened
State
FP: California Fully Protected species
SCE: State candidate for listing as endangered
SE: State listed as endangered
SSC: California Species of Special Concern
ST: State listed as threatened
WL: CDFW Watch List species

References

CDFW (California Department of Fish and Wildlife). 2025. California Natural Diversity Database (CNDDB). RareFind 5.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed January 2025. https://nrmsecure.dfg.ca.gov/cnddb/Default.aspx.

USFWS (U.S. Fish and Wildlife Service). 2025. "National Wetlands Inventory." Accessed January 2025. https://www.fws.gov/wetlands/.

Appendix E

Aquatic Resources Delineation Report

DRAFT

Aquatic Resources Delineation Report

North River Road and Sleeping Indian Road Drainage Improvements

APRIL 2025

Prepared for:

CITY OF OCEANSIDE
300 North Coast Highway
Oceanside, California 92054
Contact: Edwin Medina

Prepared by:

DUDEK

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Printed on 30% post-consumer recycled material.

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APPENDICES

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
APT	Antecedent Precipitation Tool
ARC	antecedent runoff condition
ARDR	Aquatic Resources Delineation Report
CDFW	California Department of Fish and Wildlife
NWW	non-wetland water
OHWM	ordinary high-water mark
PDSI	Palmer Drought Severity Index
Project	North River Road and Sleeping Indian Road Drainage Improvements Project
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Services

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1 Introduction

This Aquatic Resources Delineation Report (ARDR) was prepared in accordance with the U.S. Army Corps of Engineers' (USACE) Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2017). This ARDR and supporting appendices provide the 20 items listed in the Minimum Standards. This report presents the results of the jurisdictional aquatic resource delineation conducted by Dudek staff for the North River Road and Sleeping Indian Road Drainage Improvements Project (Project) in Oceanside, San Diego County, California. The delineation was conducted to identify and map existing aquatic resources potentially subject to the regulatory jurisdiction of the USACE pursuant to Section 404 of the Clean Water Act (33 USC 1344), waters of the state potentially subject to the regulatory jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the Clean Water Act and the Porter–Cologne Water Quality Control Act, and stream and riparian habitats potentially subject to the jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the California Fish and Game Code (collectively defined as jurisdictional aquatic resources).

1.1 Disclaimer Statement

This ARDR presents Dudek's best effort to quantify the extent of aquatic resources potentially regulated by USACE, RWQCB, and CDFW (i.e., regulatory agencies) within the identified review area using current regulations, written policies, and guidance from these regulatory agencies. The potential jurisdictional boundaries described in this ARDR are subject to verification by the regulatory agencies. Only the regulatory agencies can make a final determination on whether the features present are subject to USACE, RWQCB, and/or CDFW regulation.

1.2 Contact Information

Contact information for the Project applicant and agent are provided in Table 1.[1] Access to the review area is not restricted, but if a site visit is requested, the project applicant or agent will accompany regulatory staff to the review area.[2] The City of Oceanside is the project applicant and landowner.

Table 1. Contact Information

Project Applicant	City of Oceanside	**Agent**	Dudek
Contact Name	Edwin Medina	**Contact Name**	Alex Hardy
Address	300 North Coast Highway, Oceanside, California 92054	**Address**	605 Third Street, Encinitas, California 92024
Phone	760-435-5086	**Phone**	442-232-7822
Email	emedina@oceansideca.org	**Email**	ahardy@dudek.com

1 Minimum Standards Item 2 (Contact Information)
2 Minimum Standards Item 3 (Site Access Statement)

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2 Review Area Description and Landscape Setting

The approximately 9-acre review area for the proposed Project is in the City of Oceanside in northern San Diego County, California (Figure 1, Project Location). The review area consists of portions of eight parcels: Assessor's Parcel Numbers 12210040, 12209056, 12210059, 12210034, 12210012, 12210008, 12209054, and 12210053. It is located on North River Road between North Wilshire Road and Sleeping Indian Road, as well as on Sleeping Indian Road between North River Road and Las Tunas Drive. The review area is surrounded by low-intensity agricultural operations and low-density residential development in a semi-rural setting. The San Luis Rey River runs parallel to the review area to its south. The Project site can be found on the U.S. Geologic Survey Morro Hill 7.5-minute topographic quadrangle (see Figure 1).[3,4]

The Project site can be accessed from California Highway 76 west by taking a left onto College Boulevard, travelling approximately 0.9 miles northwest, taking a right onto North River Road/Vandegrift Boulevard, taking a right onto North River Road, turning left onto CA-246, and travelling 2.1 miles east (Figure 2, Review Area).[5]

2.1 Geology and Topography

The review area is in the Diegan Coastal Hills and Valleys region of the Southern California/Northern Baja coast. Geology at the site is classified as alluvium derived from granitic sources. Site geology is associated with alluvial fan, terraces, floodplains, hills, and mountainous uplands. Elevations within the review area range from approximately 102 to 266 feet above mean sea level. The review area is generally sloped north to south, with elevation dropping as it approaches the San Luis Rey River.

2.2 Soils

Soil types within the review area[6] are shown in Table 2 and Figure 3, Soils. According to the U.S. Department of Agriculture's Natural Resources Conservation Service, there are seven soil types mapped in the review area (USDA 2025a): Cieneba very rocky coarse sandy loam, 30% to 75% slopes; Fallbrook sandy loam, 9% to 15% slopes, eroded; Placentia sandy loam, 5% to 9% slopes, eroded; Tujunga sand, 0% to 5% slopes; Visalia sandy loam, 2% to 5% slopes; Vista coarse sandy loam, 15% to 30% slopes, eroded; and steep gullied land. Table 2 provides a summary of the soil mapped in the review area.

Table 2. Soils in the Review Area

Soil Type	Hydric Rating	Acreage
Cieneba very rocky coarse sandy loam, 30% to 75% slopes	Not Hydric	2.68
Fallbrook sandy loam, 9% to 15% slopes, eroded	Not Hydric	0.003
Placentia sandy loam, 5% to 9% slopes, eroded	Predominantly Non-Hydric	1.18

3 Minimum Standards Item 10 (Description of Existing Field Conditions)
4 Minimum Standard Item 14 (Site Location Map)
5 Minimum Standards Item 4 (Directions)
6 Minimum Standards Item 13 (Soil Descriptions)

Table 2. Soils in the Review Area

Soil Type	Hydric Rating	Acreage
Tujunga sand, 0% to 5% slopes	Predominantly Non-Hydric	4.26
Visalia sandy loam, 2% to 5% slopes	Predominantly Non-Hydric	0.52
Vista coarse sandy loam, 15% to 30% slopes, eroded	Not Hydric	0.21
Steep gullied land	Not Hydric	0.02

Sources: USDA 2025a, 2025b

The Cieneba series are somewhat excessively drained soils that occur on hills and mountains and are formed in material weathered from granitic rock (USDA 2025a). The Fallbrook series are well drained soils that occur on rolling hills are formed in residuum weathered from granitic rock (USDA 2025a). The Placentia series are well to moderately well drained soils that occur on fans and terraces and are formed in alluvium from granite and other rocks of similar composition and texture (USDA 2025a). The Tujunga series are somewhat excessively drained soils that occur on alluvial fans and floodplains and are formed in alluvium from granitic sources (USDA 2025a). The Visalia series are somewhat poorly drained soils that occur on alluvial fans and flood plains and are formed from alluvial outwash from granitic sources (USDA 2025a). The Vista series are well drained soils that occur on hills and mountainous uplands and are formed in material weathered from decomposed granitic rocks (USDA 2025a). None of the soil types mapped within the review area are considered hydric (USDA 2025a, 2025b).

2.3 Vegetation

A total of 20 species of native or naturalized plants, 11 native (55%) and 9 non-native (45%), were recorded in the review area. Land cover in the review area consists of mulefat scrub, giant reed (*Arundo donax*)-dominated riparian vegetation, southern arroyo willow riparian forest, southern riparian scrub, non-native riparian, non-native grassland, and disturbed/developed land covers in the form of asphalt and dirt roads, agriculture, and ornamental plantings.

2.4 Watershed

The review area occurs within the San Luis Rey River watershed (Hydrologic Unit Code [HUC] 18070303). The San Luis Rey River watershed is 359,000 acres, originating in the Palomar Mountains and reaching the ocean at the City of Oceanside.

2.5 Review Area Alterations, Current and Past Land Use

Data from the USACE-developed Antecedent Precipitation Tool (APT), discussed in further detail below, was assessed for this jurisdictional delineation and indicated that the survey took place in a drier than normal period. No water was observed within any of the aquatic features on site, except for the agricultural ditches in the far western portion of the review area, which contained pooled water at the time of the visit.

Within the review area, there are several agricultural operations ranging from nursery operations to the cultivation of crops such as avocados, as well as sections of residential property. Review of aerial imagery indicates that this is the only land use which has taken place in the review area. It is presumed that the water present within the agricultural ditches at the time of the survey was the result of irrigation associated with the agricultural operation to which the features were connected.

3 Precipitation Data and Analysis

The USACE-developed APT was used to assess whether the delineation date occurred in a drier, average, or wetter than normal period (USACE 2025).[7] To determine what constitutes a "typical year," USACE developed the APT. The information generated from the APT can help to determine whether normal hydrologic and/or climatic conditions were present during the site visit, and to assist with completing the Wetland Determination Data Form.

The APT provides three climatological parameters: Palmer Drought Severity Index (PDSI), season, and antecedent precipitation condition. The PDSI is a standardized index calculated on a monthly basis, with PDSI value outputs ranging from -4 (extreme drought) to +4 (very wet) (NOAA 2025) to assess drought conditions (i.e., PDSI Class). The APT determines wet vs. dry season based on related procedures provided in the applicable USACE regional supplement for the review area (in this case, the Arid West Supplement [USACE 2008a]). If the antecedent runoff condition (ARC) score is less than 10, then the antecedent precipitation condition is classified as drier than normal; if the ARC score is 10 to 14 then conditions are normal; if the ARC score is greater than 14 then conditions are wetter than normal (USACE 2025).

Table 3 summarizes the key data extrapolated from the APT output: estimated drought conditions (PDSI Class), wet or dry season determination, ARC score, and antecedent precipitation condition. Based on the APT output provided in Appendix A and summarized in Table 3, the precipitation and climatic conditions for the review area were drier than normal during the time of the delineation.

Table 3. Antecedent Precipitation Tool Data for the Review Area

Main Field Survey Date	PDSI Class	Season	ARC Score	Antecedent Precipitation Condition
1/16/2025	Severe Drought	Wet Season	7	Drier than Normal
2/21/2025	Severe drought	Wet Season	9	Drier than Normal

Notes: PDSI = Palmer Drought Severity Index; ARC = antecedent runoff condition

Additionally, according to the Western Regional Climate Center (WRCC 2025), the area around the review area receives an average of 13.1 inches of precipitation annually.

[7] Minimum Standards Item 11 (Discussion of Hydrology)

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4 Investigation Methods

This chapter describes the investigation methods for this jurisdictional delineation[8] conducted by Dudek biologists Josh Elson, Eilleen Salas, and Kimberly Narel on January 16, 2025, and February 21, 2025 (Table 4).[9] Prior to conducting the jurisdictional delineation, the U.S. Fish and Wildlife Services' (USFWS) National Wetlands Inventory data was reviewed to determine if the review area contains any features mapped by USFWS (2025). Site-specific topographical data was reviewed in conjunction with aerials, both current and historical, to determine the potential presence of non-wetland waters. Current vegetation mapping was reviewed to assess whether the review area supports hydrophytic vegetation and potential wetlands; one area supporting hydrophytic vegetation was also assessed for the presence of wetland hydrology and hydric soils to determine whether it was a three-parameter wetland. Jurisdictional boundaries were mapped in the field using ESRI Collector on a mobile device. Remote sensing was not used for the delineation.[10]

Table 4. Schedule of the Aquatic Resources Delineation

Date	Hours	Personnel	Conditions (temperature, skies, wind)
1/16/2025	0845–1430	Josh Elson, Eilleen Salas	52°F–68°F, 0%–50% cloud cover, no wind
2/21/2025	0800–1200	Kimberly Narel	60°F –72°F, 0%–100% cloud cover, 1–3 mph wind

4.1 U.S. Army Corps of Engineers

The USACE wetlands delineation was conducted in accordance with the 1987 USACE Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b) was used to determine the limits of non-wetland waters. Non-wetland waters were delineated on topographical maps in conjunction with ESRI Collector on a mobile device. The widths of each non-wetland water were determined in the field according to the OHWM Manual.[11]

Wetland Determination Forms were completed for certain points within drainages or vegetation communities where a predominance of hydrophytic vegetation was present; hydrology, vegetation, and soils were assessed to determine whether USACE three-parameter wetlands were present. USACE OHWM Forms were completed at representative cross-sections of non-wetland waters to capture their characteristics and widths. Streamflow Duration Assessment Method (SDAM) forms were also completed to determine the flow duration of features on site. All data forms can be found in Appendix B.[12]

8 Minimum Standards Item 19 (Methods)
9 Minimum Standards Item 8 (Dates of Field Work)
10 Minimum Standards Item 12 (Statement Regarding Use of Remote Sensing)
11 Minimum Standards Item 5 (Use of 1987 Manual, Regional Supplement, and OHWM guide)
12 Minimum Standards Item 18 (Data Forms)

4.2 Regional Water Quality Control Board

Waters of the state regulated by the RWQCB were mapped in accordance with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2021). As described in these procedures, wetland waters of the state are mapped based on the procedures in USACE's 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and its 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a). Non-wetland waters are mapped at the OHWM based on the procedures defined in USACE's 2008 A Field Guide to Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b).

4.3 California Department of Fish and Wildlife

CDFW jurisdictional areas were mapped to include the bank of the stream/channel and outer dripline of adjacent riparian vegetation, as set forth under California Fish and Game Code Section 1602. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979).

5 Aquatic Resource Narrative

This chapter describes the aquatic resources that occur in the review area.[13] A description of these features and their observed OHWM indicators is provided below. Appendix B contains the data forms completed during the site visits, which are also summarized below. Photos of the potential aquatic features delineated within the review area and additional areas reviewed for the presence of these resources are provided in Appendix C.[14]

Non-Wetland Water (NNW-)-1, NWW-2, and NWW-3 receive flows from unnamed drainages to the north and enter the San Luis Rey River via culverts from the north side of North River Road. NWW-4 enters a set of culverts and flows south under North River Road, and discharges into the San Luis Rey River. In the northern part of the review area, NWW-5 conveys water from northeast to southwest after which NWW-5 exits the review area and flows for approximately 0.5 miles before re-entering the review area as NWW-4.

The USFWS National Wetlands Inventory identifies the drainage that NWW-4 and NWW-5 are part of as a riverine feature (Cowardin Code R4SBC) (USFWS 2025). Portions of the southern part of the review are within the 100-year flood zone according to the Federal Emergency Management Agency (FEMA 2024), as shown in Figures 4a–4c, Hydrologic Setting.

Non-Wetland Water-01

NWW-01 is a feature composed of two drainages (NWW-01a, NWW-01b) located in the western portion of the review area. Cross-section T-01 recorded the following indicators of an OHWM: a break in bank slope and a change in vegetation cover (see Appendix B). NWW-01a is a drainage with flows originating from the agricultural pond immediately north of the review area, entering the review area in a culvert, passing across an agricultural ditch for approximately 20 feet, entering another culvert under North River Road, and then flowing into the San Luis Rey River riparian corridor (outside of the OHWM of the river) where it branches. One branch continues for approximately 20 feet before dissipating, while the other branch continues southward towards the San Luis Rey River main channel and exits the review area. NWW-01b is an agricultural ditch that enters the review area from the east and moves flows from east to west, draining into NWW-01a. This drainage also receives flows from the pond to the north but via a different system of culverts.

NWW-01 did not contain invertebrates, algae, fish, and/or other aquatic taxa that could indicate consistent and/or permanent flows on site. Standing water was observed within NWW-01b but is presumed to originate from irrigation associated with the nursery operation within which it occurs, given that the region had not received any significant rainfall since the spring of 2024. As such, it appears NWW-01 only conveys ephemeral flows associated with overflow from the agricultural pond to the north, excess irrigation, or for short durations in direct response to precipitation or rainfall events.

Non-Wetland Water-02

NWW-02 is a drainage in the central portion of the review area. Cross-section T-02 recorded the following indicators of an OHWM: a change in vegetation cover and a break in bank slope (see Appendix B). This drainage enters the review area from the north and flows as a channel for approximately 100 feet before crossing over a concrete

13 Minimum Standards Item 6 (Aquatic Resource Narrative)
14 Minimum Standards Item 17 (Ground Photos)

Arizona crossing, entering a concrete basin, continuing through culverts under North River Road, exiting the culverts onto riprap, entering the San Luis Rey River riparian corridor (outside of the OHWM of the river), and then flowing approximately 85 feet south before exiting the review area. NWW-02 did not contain invertebrates, algae, fish, and/or other aquatic taxa that could indicate consistent and/or permanent flows on site. No standing or flowing water was observed. As such, it appears that NWW-02 only conveys ephemeral flows that only drain for short durations in response to precipitation or rainfall events.

Non-Wetland Water-03

NWW-03 is a drainage located in the central portion of the review area. Cross-section T-04 recorded the following indicators of an OHWM: a change in vegetation cover and a break in bank slope (see Appendix B). This drainage enters the review area where a broken culvert outlets into the San Luis Rey River riparian corridor (outside of the OHWM of the river) and directs water south. The culvert inlet was unable to be located and it is presumed that it is within the adjacent property to the north. NWW-03 continues southward until exiting the review area. NWW-03 did not contain invertebrates, algae, fish, and/or other aquatic taxa that could indicate consistent and/or permanent flows on site. As such, it appears that NWW-03 only conveys ephemeral flows that only drain for short durations in response to precipitation or rainfall events.

Non-Wetland Water-04

NWW-04 is a drainage in the eastern portion of the review area. Cross-section T-03 recorded the following indicators of an OHWM: a change in average sediment texture, a change in vegetation cover, and a break in bank slope (see Appendix B). This drainage enters the review area from the north via a channel bordering the eastern side of the adjacent agricultural property to the north, flows into a concrete basin, enters three culverts below North River Road, and outlets into the San Luis Rey River riparian corridor (outside of the OHWM of the river), continuing via a natural channel and exiting the review area. This drainage also receives flows from a V ditch east of the main branch, which directs runoff from the road over riprap, draining from east to west into the feature.

NWW-04 did not contain invertebrates, algae, fish, and/or other aquatic taxa that could indicate consistent and/or permanent flows on site. As such, it appears that NWW-04 only conveys ephemeral flows that only drain for short durations in response to precipitation or rainfall events.

Non-Wetland Water-05

NWW-05 is a drainage located in the northern portion of the review area. Cross-section T-05 recorded the following indicators of an OHWM: drift deposits, presence of bed and bank, and soil development (see Appendix B). This drainage enters the review area from the north as a channel flowing south across the adjacent property, enters a culvert on the northeast side of Sleeping Indian Road, outlets on the southwestern side of the road, and continues flowing south until it exits the review area. NWW-05 did not contain invertebrates, algae, fish, and/or other aquatic taxa that could indicate consistent and/or permanent flows on site. No standing or flowing water was observed within the feature. As such, it appears NWW-05 only conveys ephemeral flows that only drain for short durations in response to precipitation or rainfall events.

5.1 Waters of the United States (USACE)

On August 29, 2023, the U.S. Environmental Protection Agency and USACE issued a final rule to amend the final Revised Definition of "Waters of the United States" rule (88 CFR 3004–3144; published in the Federal Register on January 18, 2023, and effective on March 20, 2023) to conform with the Sackett v. U.S. Environmental Protection Agency decision. Some of the key changes to the rule included the removal of the significant nexus test from consideration when identifying tributaries and other waters as federally protected and the revision of the adjacency test when identifying federally jurisdictional wetlands. Under the U.S. Environmental Protection Agency's new definition, a "waters of the United States" is a relatively permanent, standing, or continuously flowing body of water that has an apparent surface connection to a traditional navigable water.

The five ephemeral drainages present within the review area did not appear to meet the definition of a "waters of United States," specifically 33 CFR 328.3(a)(3), as the features do not appear to be "relatively permanent, standing or continuously flowing bodies of water." As previously discussed, the features throughout the review area appear to convey ephemeral flows that only drain for short durations in direct response to precipitation or rainfall events, and permanent or consistent flow was not distinguishable during field observation or in a review of recent and historic aerials (Google Earth 2025). Therefore, all features present are not anticipated to be subject to USACE jurisdiction because these features do not meet the relatively permanent standard as a water of the United States.

5.2 Waters of the State (RWQCB)

All of the features described in this chapter have been identified as waters of the state. Approximately 0.12 acres of non-wetland waters potentially regulated by the RWQCB are present within the review area. These features are subject to regulation by the RWQCB under the Porter–Cologne Water Quality Control Act. (Figures 5a–5d, Potential Jurisdictional Aquatic Resources – RWQCB/CDFW). Table 5 lists all features within the review area that are subject to RWQCB regulation.

Table 5. RWQCB Aquatic Resource Summary for the Review Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Acreage/Linear Feet[1]
Non-Wetland Waters		
NWW-01	33.25909561, -117.2703598	0.02 / 373
NWW-02	33.25960771, -117.2657312	0.03 / 275
NWW-03	33.25964266, -117.2659161	0.01 / 153
NWW-04	33.2599545, -117.2641418	0.05 / 503
NWW-05	33.26893324, -117.2631853	0.03 / 305
	Total	**0.14 / 1,610**

Notes: RWQCB = Regional Water Quality Control Board; NWW = non-wetland water

[1] Totals may not sum due to rounding.

5.3 CDFW Jurisdiction

All of the features described in Section 5.1, Waters of the United States, were identified as streambed potentially regulated by CDFW. Because CDFW regulates from bank to bank, certain portions of the review area where the top

of a channel bank extended beyond the OHWM are subject to regulation by CDFW as streambed. Additionally, CDFW jurisdiction continues outside of the top of bank if there is adjacent riparian vegetation. CDFW jurisdiction is shown in Figures 5a–5d. The full extent of CDFW jurisdictional areas is described in Table 6. A description of the riparian vegetation follows the table.

Table 6. CDFW Aquatic Resource Summary for the Review Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Acreage
Streambed and Bank		
NWW-01	33.25909561, -117.2703598	0.04
NWW-02	33.25960771, -117.2657312	0.05
NWW-03	33.25964266, -117.2659161	0.01
NWW-04	33.2599545, -117.2641418	0.08
NWW-05	33.26893324, -117.2631853	0.04
	Streambed and Bank Subtotal	*0.22*
Riparian		
Mule Fat Scrub	33.25909629, -117.2703182	1.59
Southern Riparian Scrub	33.26883944, -117.2632229	0.12
Southern Arroyo Willow Riparian Forest	33.25961941, -117.2657727	1.02
Non-Native Riparian	33.26900083, -117.2631734	0.24
	Riparian Subtotal	*2.96*
	Grand Total	**3.18**

Notes: CDFW = California Department of Fish and Wildlife; NWW = non-wetland water
Totals may not sum due to rounding.

Mulefat Scrub

This vegetation community was evaluated to determine if it meets USACE three-parameter criteria for wetlands. An evaluation of this area indicated the presence of hydrophytic vegetation, but an absence of hydric soils, wetland hydrology and/or indictors of OHWM and is therefore not considered USACE wetlands.

Southern Riparian Scrub

This vegetation community was evaluated to determine if it meets USACE three-parameter criteria for wetlands. An evaluation of this area indicated the presence of hydrophytic vegetation, but an absence of hydric soils, wetland hydrology and/or indictors of OHWM and is therefore not considered USACE wetlands.

Southern Arroyo Willow Riparian Forest

This vegetation community was evaluated to determine if it meets USACE three-parameter criteria for wetlands. An evaluation of this area indicated the presence of hydrophytic vegetation, but an absence of hydric soils, wetland hydrology and/or indictors of OHWM and is therefore not considered USACE wetlands.

5.4 National Wetlands Inventory

The review area contains one resource from the USFWS' National Wetlands Inventory database mapped as intermittent riverine (USFWS 2025) (Figures 4a–4c). This feature is generally contiguous with the mapped areas of NWW-3 in the eastern and northern portions of the review area. The review area contains two resources from the U.S. Geological Survey's National Hydrography Dataset database mapped as ephemeral stream/river features (overlapping with NWW-2 and NWW-3), one resource mapped as an artificial path (overlapping with NWW-1), and one resource mapped as an intermittent stream/river feature within the San Luis Rey River riparian corridor (USGS 2023) (Figures 4a–4c).

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6 Results and Conclusions

Based on the jurisdictional delineation and review of relevant information provided in this ARDR, five non-wetland water features were delineated within the review area. These features may be regulated by RWQCB and CDFW. In total, 0.14 acres of non-wetland waters (below OHWM) fall under RWQCB jurisdiction and 3.18 acres of CDFW Streambed (below and above OHWM, to top of bank) occurs in the review area. As noted in Chapter 5, Aquatic Resource Narrative, all the features within the review area do not appear to meet the definition of a waters of the United States, specifically 33 CFR 328.3(a)(3), as the features do not appear to be "relatively permanent, standing or continuously flowing bodies of water." This ARDR can be used by the regulatory agencies to determine if they would regulate the features described herein. The GIS data for the delineation is provided digitally.[15]

[15] Minimum Standards Item 20 (Digital Data)

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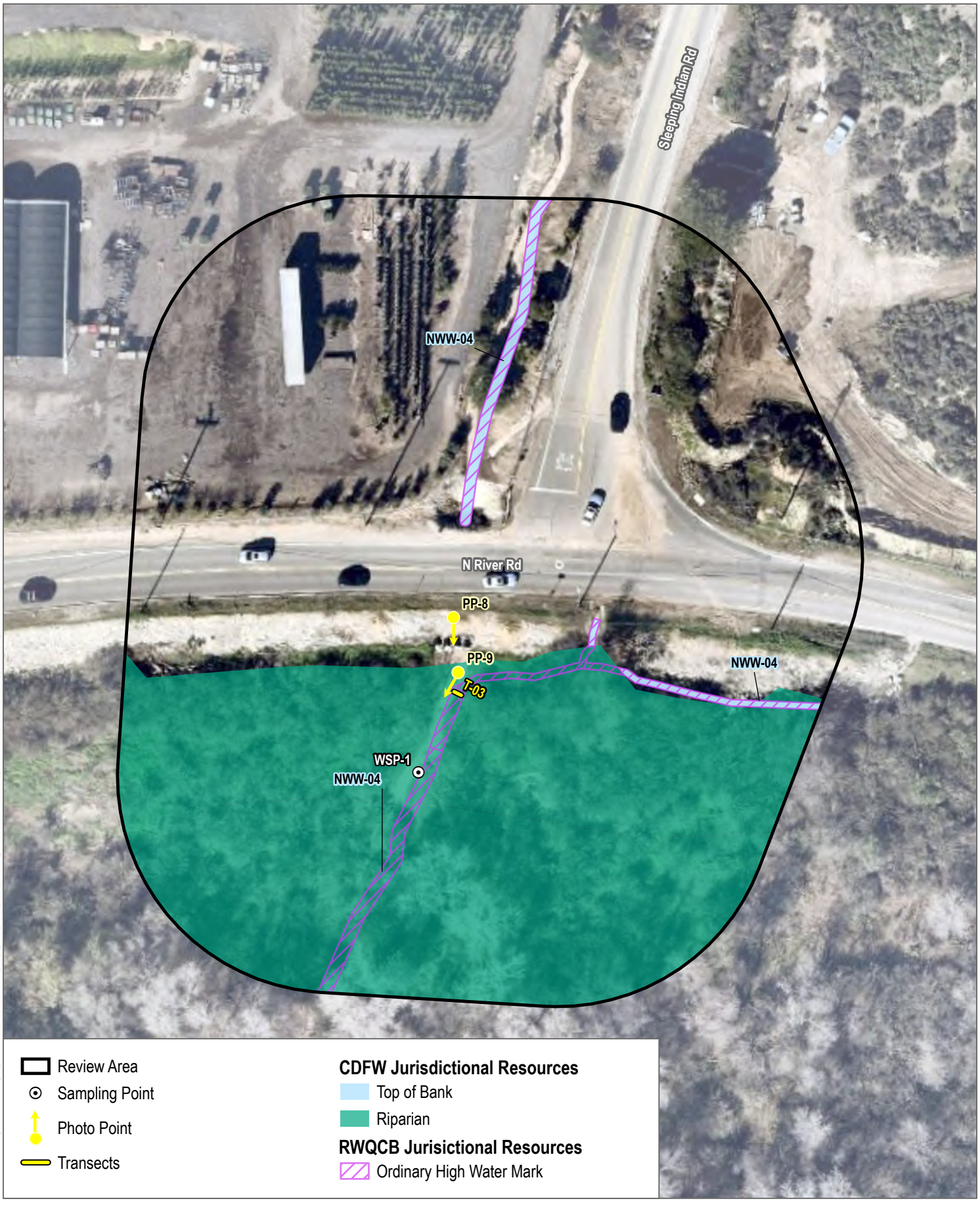
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SOURCE: SANGIS 2024

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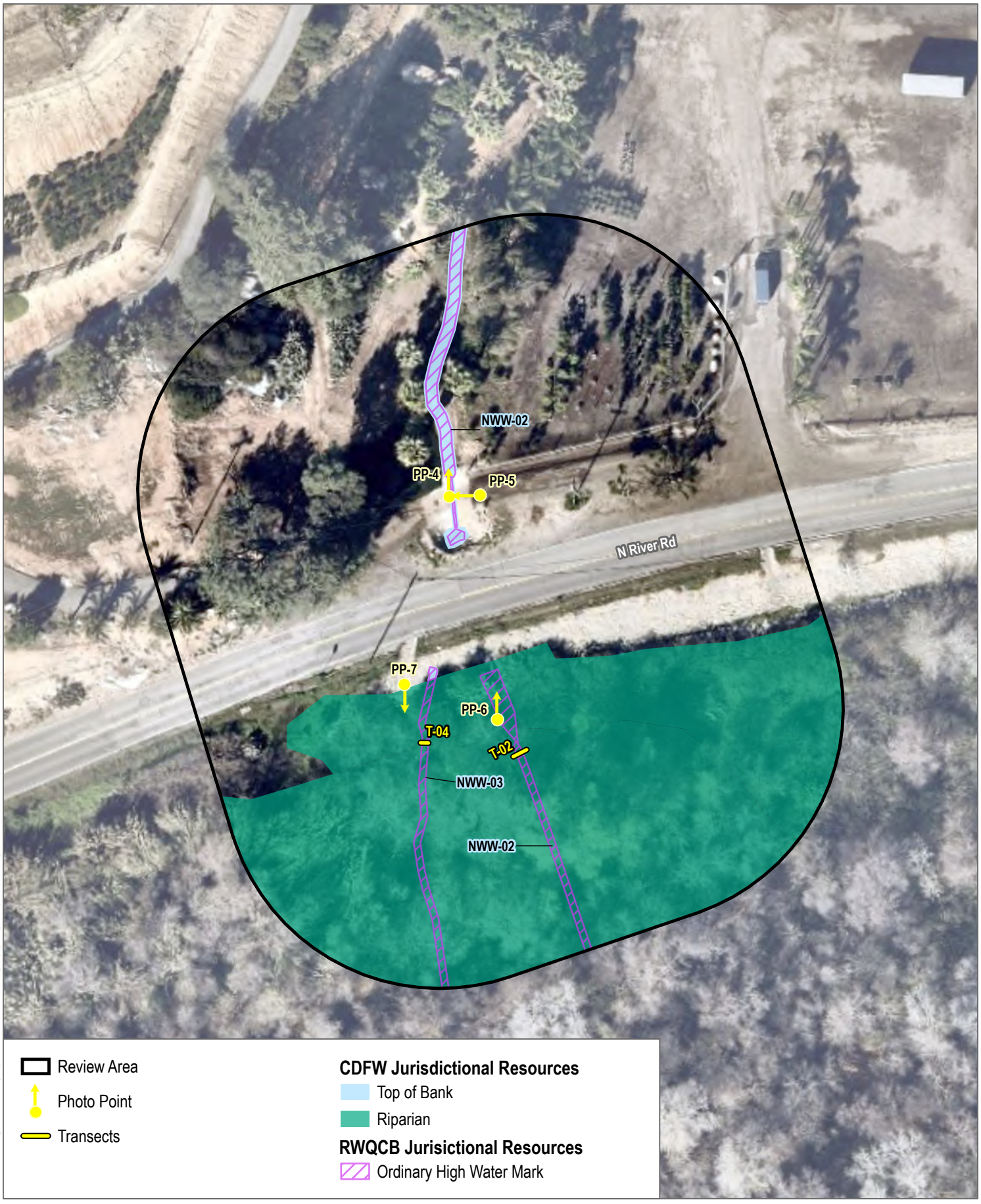
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FIGURE 5b

Potential Jurisdictional Aquatic Resources - RWQCB/CDFW

North River Road and Sleeping Indian Road Culverts Project

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SOURCE: SANGIS 2024

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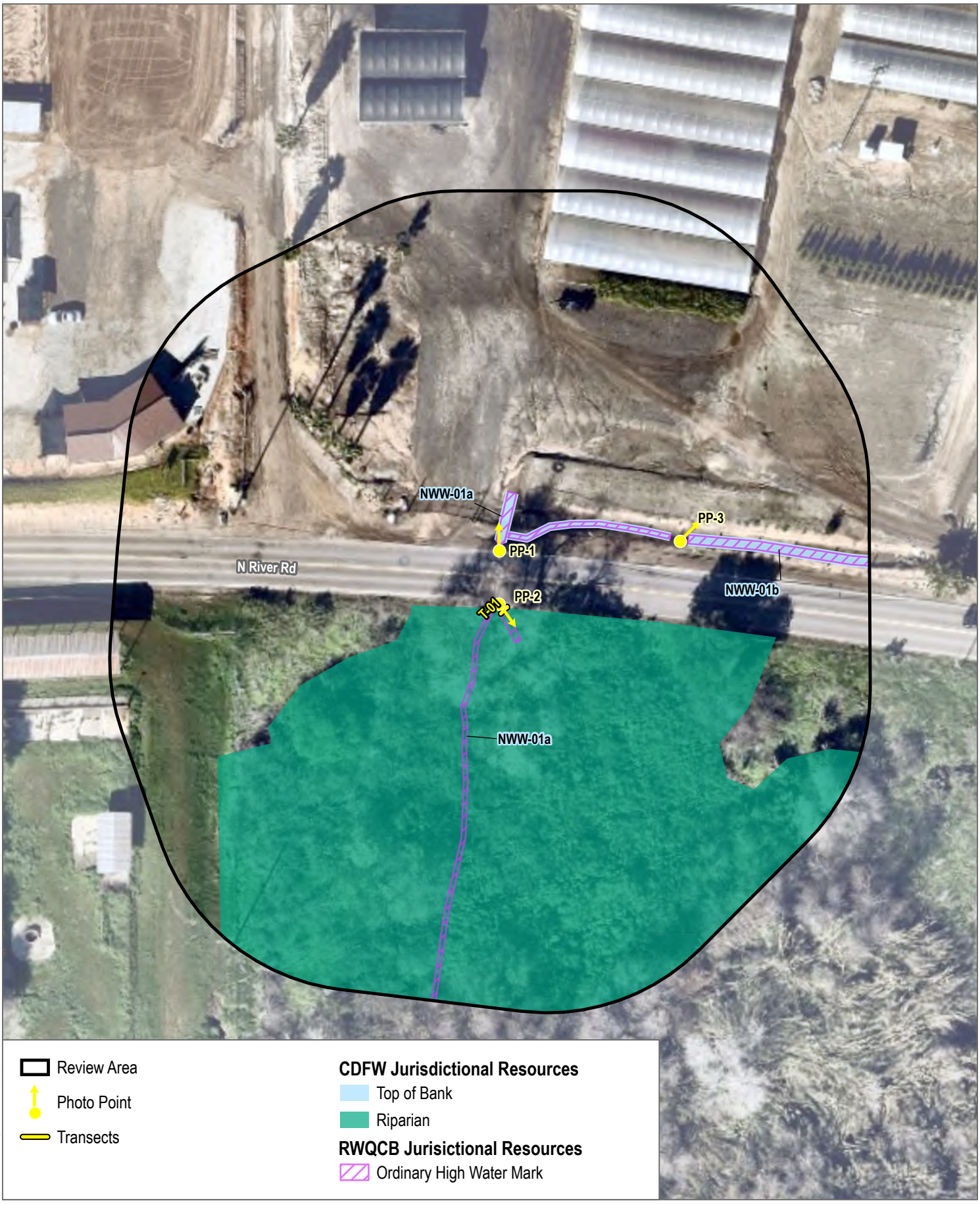
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FIGURE 5c

Potential Jurisdictional Aquatic Resources - RWQCB/CDFW

North River Road and Sleeping Indian Road Culverts Project

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SOURCE: SANGIS 2024

DUDEK

0 25 50 Feet

FIGURE 5d

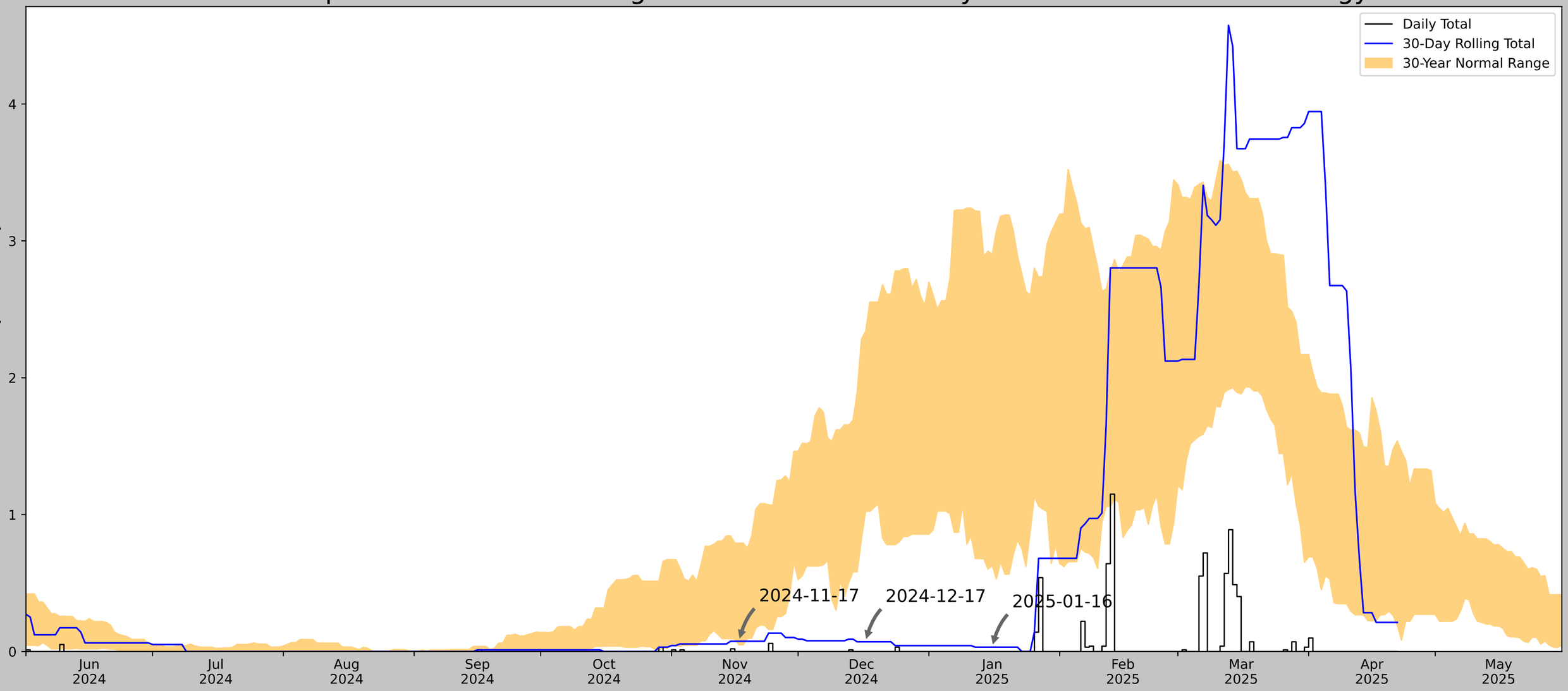
Potential Jurisdictional Aquatic Resources - RWQCB/CDFW

North River Road and Sleeping Indian Road Culverts Project

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Appendix A

Antecedent Precipitation Tool Output



Coordinates	33.260051, -117.265144
Observation Date	2025-01-16
Elevation (ft)	114.061
Drought Index (PDSI)	Severe drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-01-16	0.627953	2.902362	0.031496	Dry	1	3	3
2024-12-17	1.024016	2.338976	0.070866	Dry	1	2	2
2024-11-17	0.049213	0.792126	0.074803	Normal	2	1	2
Result							Drier than Normal - 7

US Army Corps of Engineers

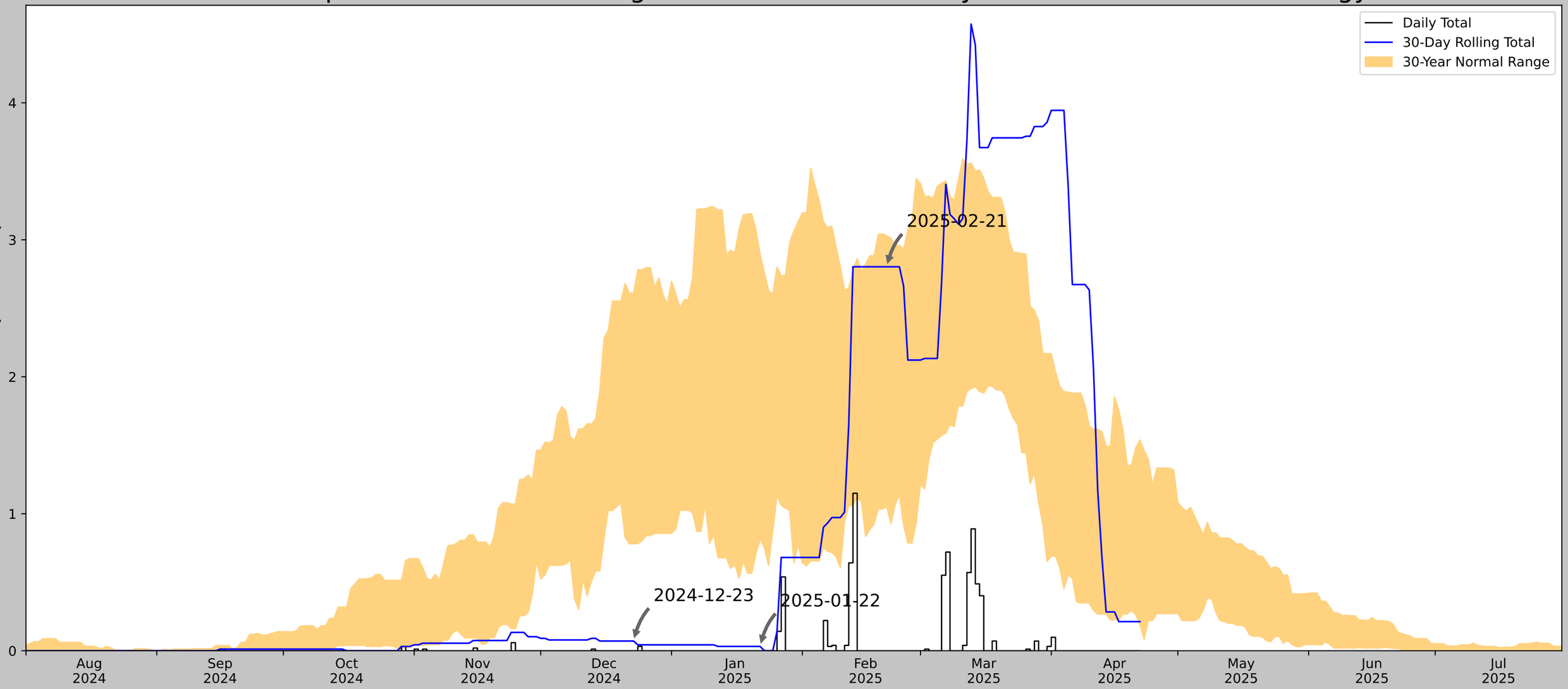
ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
VISTA	33.2353, -117.2322	430.118	2.559	316.057	1.96	11029	89
VISTA 1.5NNW	33.2192, -117.2536	416.995	1.664	13.123	0.771	66	0
OCEANSIDE 8.1ENE	33.2499, -117.2559	188.976	1.701	241.142	1.176	0	1
VISTA 1.2SE	33.1862, -117.2311	504.921	3.393	74.803	1.781	4	0
OCEANSIDE 8.4NE	33.27, -117.2663	251.969	3.103	178.149	1.949	12	0
OCEANSIDE 2.3 WNW	33.233, -117.3498	259.843	6.798	170.275	4.217	2	0
CARLSBAD MCCLELLAN PALOMAR AP	33.13, -117.2764	312.992	7.711	117.126	4.373	147	0
CAMP PENDLETON MCAS	33.3042, -117.355	69.882	8.543	360.236	6.922	93	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	33.269232, -117.263175
Observation Date	2025-02-21
Elevation (ft)	227.016
Drought Index (PDSI)	Severe drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-02-21	1.052756	3.028347	2.80315	Normal	2	3	6
2025-01-22	0.814567	2.891339	0.031496	Dry	1	2	2
2024-12-23	0.781102	2.610236	0.070866	Dry	1	1	1
Result							Drier than Normal - 9

US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
VISTA	33.2353, -117.2322	430.118	2.95	203.102	1.926	11029	89
VISTA 1.5NNW	33.2192, -117.2536	416.995	1.664	13.123	0.771	66	0
OCEANSIDE 8.1ENE	33.2499, -117.2559	188.976	1.701	241.142	1.176	0	1
VISTA 1.2SE	33.1862, -117.2311	504.921	3.393	74.803	1.781	4	0
OCEANSIDE 8.4NE	33.27, -117.2663	251.969	3.103	178.149	1.949	12	0
OCEANSIDE 2.3 WNW	33.233, -117.3498	259.843	6.798	170.275	4.217	2	0
CARLSBAD MCCLELLAN PALOMAR AP	33.13, -117.2764	312.992	7.711	117.126	4.373	147	0
CAMP PENDLETON MCAS	33.3042, -117.355	69.882	8.543	360.236	6.922	93	0

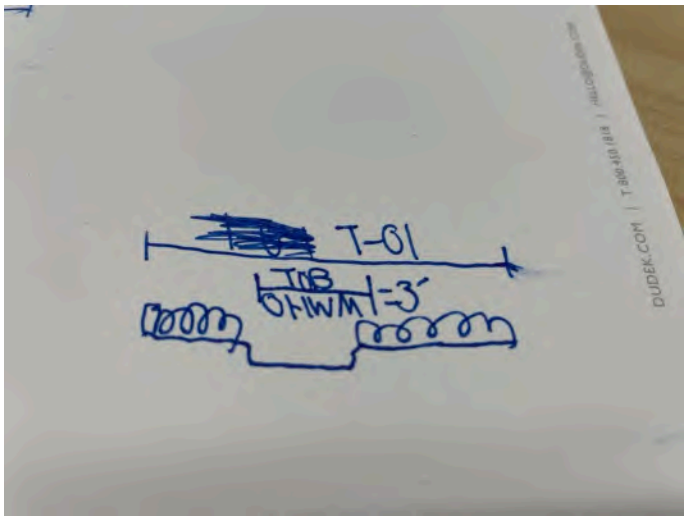
Appendix B
Data Forms

Wet-12 High Water Mark v2

Project	Oceanside North River Rd Storm Drains
ID	518911
Survey Date	01/16/2025
User	Kam Muri
Project:	Oceanside North River Road Storm Drains
Project Number:	
Stream:	
Cross Section ID:	T-01
Investigator(s):	Josh Elson; Eilleen Salas
Town:	Oceanside, CA
Photo begin file#:	
Time:	01:15 PM
State:	
Photo end file#:	
Do normal circumstances exist on the site?	Y
Is the site significantly disturbed?	N
Location Details:	The OHWM transect was taken across a small channel whose source is a culvert flowing south under North River Road before arriving in channel. Channel drains into the San Luis Rey River riparian corridor.
Projection:	
Coordinates:	
Latitude	33.259303
Longitude	-117.270318
Datum:	
Potential anthropogenic influences on the channel system:	Water source is from culvert which passes under North River Road and over rip rap before arriving in channel
Brief site description:	The OHWM transect was taken across a small channel whose source is a culvert flowing south under North River Road before arriving in channel. Channel drains into the San Luis Rey River riparian corridor.
Checklist of resources (if available):	Aerial photography, Vegetation maps, Soils maps, Global positioning system (GPS)
Dates:	
Stream gage data	
Gage number:	
Period of record:	
Stream gage data resources:	

5. Identify the OHWM and record the indicators. Record the OHWM position via:	GPS

Cross section drawing:



OHWM	
GPS point:	
Latitude	33.259303
Longitude	-117.270318
Indicators:	Change in vegetation cover, Break in bank slope
Comments:	

Floodplain 1	
Floodplain unit:	Low-Flow Channel
GPS point:	
Latitude	33.259303
Longitude	-117.270318

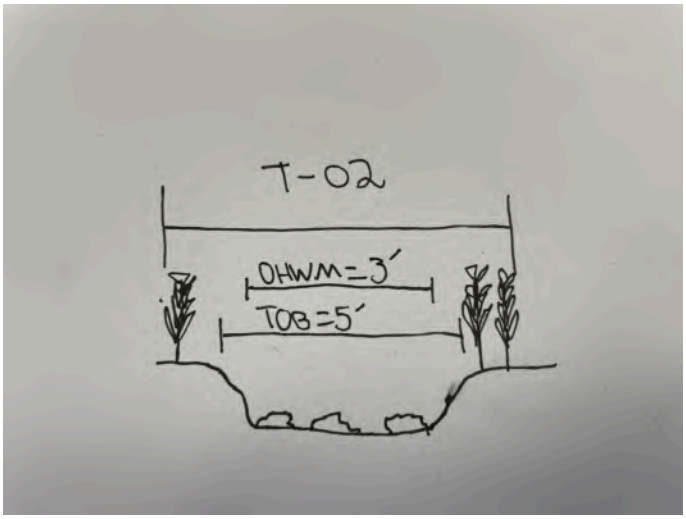
Characteristics of the floodplain unit	
Average sediment texture:	Sandy
Total veg cover:	100
Tree:	50
Shrub:	50
Herb:	
Community successional stage:	Late (herbaceous, shrubs, mature trees)
Indicators:	Surface relief
Comments:	
Floodplain Photo(s)	None
Upload additional drawings and/or photos	None

Wet-12 High Water Mark v2

Project	Oceanside North River Rd Storm Drains
ID	518609
Survey Date	01/16/2025
User	Kam Muri
Project:	Oceanside North River Road Storm Drains
Project Number:	
Stream:	
Cross Section ID:	T-02
Investigator(s):	Josh Elson; Eilleen Salas
Town:	Oceanside, CA
Photo begin file#:	
Time:	11:04 AM
State:	
Photo end file#:	
Do normal circumstances exist on the site?	Y
Is the site significantly disturbed?	N
Location Details:	The OHWM transect was taken across a channel whose source is several culverts flowing south under North River Road and flowing over rip rap before arriving in channel. Channel is under the San Luis Rey River riparian canopy.
Projection:	
Coordinates:	
Latitude	33.25976454827035
Longitude	-117.2658009193187
Datum:	
Potential anthropogenic influences on the channel system:	Water source is from culvert which passes under North River Road and over rip rap before arriving in channel
Brief site description:	The OHWM transect was taken across a channel whose source is several culverts flowing south under North River Road and over rip rap before arriving in channel. Channel is under the San Luis Rey River riparian canopy.
Checklist of resources (if available):	Aerial photography, Vegetation maps, Soils maps, Global positioning system (GPS)
Dates:	1-16-25
Stream gage data	
Gage number:	
Period of record:	
Stream gage data resources:	

5. Identify the OHWM and record the indicators. Record the OHWM position via:	GPS

Cross section drawing:



OHWM	
GPS point:	
Latitude	33.25976454827035
Longitude	-117.2658009193187
Indicators:	Change in vegetation cover, Break in bank slope
Comments:	

Floodplain 1	
Floodplain unit:	Low-Flow Channel
GPS point:	
Latitude	
Longitude	

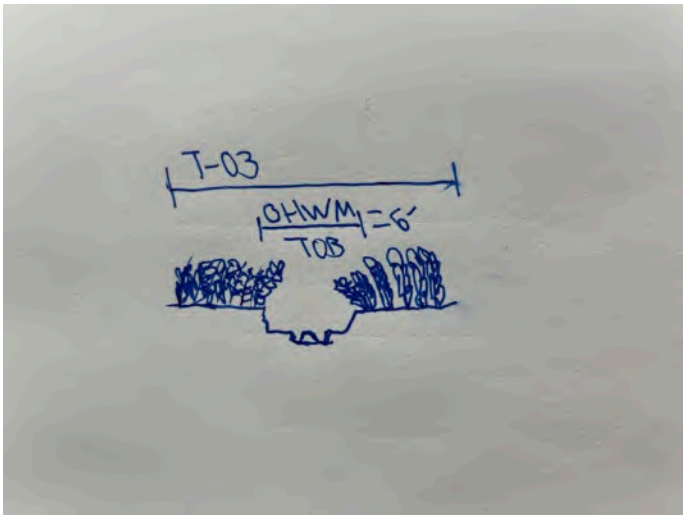
Characteristics of the floodplain unit	
Average sediment texture:	Sandy
Total veg cover:	100
Tree:	75
Shrub:	25
Herb:	
Community successional stage:	
Indicators:	Presence of bed and bank, Surface relief
Comments:	
Floodplain Photo(s)	None
Upload additional drawings and/or photos	None

Wet-12 High Water Mark v2

Project	Oceanside North River Rd Storm Drains
ID	518845
Survey Date	01/16/2025
User	Kam Muri
Project:	Oceanside North River Road Storm Drains
Project Number:	
Stream:	
Cross Section ID:	T-03
Investigator(s):	Josh Elson; Eilleen Salas
Town:	Oceanside, CA
Photo begin file#:	
Time:	12:11 PM
State:	
Photo end file#:	
Do normal circumstances exist on the site?	Y
Is the site significantly disturbed?	N
Location Details:	The OHWM transect was taken across a channel whose source is several culverts flowing south under North River Road before arriving in channel. Channel drains into/forms part of the San Luis Rey River riparian corridor.
Projection:	
Coordinates:	
Latitude	33.259939
Longitude	-117.264277
Datum:	
Potential anthropogenic influences on the channel system:	Water source is from culvert which passes under North River Road and over rip rap before arriving in channel
Brief site description:	The OHWM transect was taken across a channel whose source is several culverts flowing south under North River Road before arriving in channel. Channel drains into/forms part of the San Luis Rey River riparian corridor.
Checklist of resources (if available):	Aerial photography, Vegetation maps, Soils maps, Global positioning system (GPS)
Dates:	1-16-25
Stream gage data	
Gage number:	
Period of record:	
Stream gage data resources:	

5. Identify the OHWM and record the indicators. Record the OHWM position via:	GPS

Cross section drawing:



OHWM	
GPS point:	
Latitude	33.259939
Longitude	-117.264277
Indicators:	Change in average sediment texture, Change in vegetation cover, Break in bank slope
Comments:	

Floodplain 1	
Floodplain unit:	Low-Flow Channel
GPS point:	
Latitude	33.259939
Longitude	-117.264277

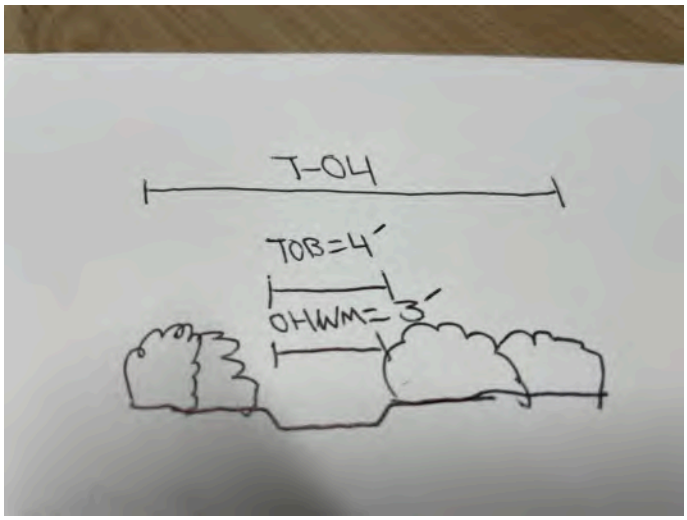
Characteristics of the floodplain unit	
Average sediment texture:	Sandy
Total veg cover:	50
Tree:	
Shrub:	40
Herb:	10
Community successional stage:	Mid (herbaceous, shrubs, saplings)
Indicators:	Mudcracks, Surface relief
Comments:	
Floodplain Photo(s)	None
Upload additional drawings and/or photos	None

Wet-12 High Water Mark v2

Project	Oceanside North River Rd Storm Drains
ID	521710
Survey Date	02/21/2025
User	Kam Muri
Project:	Oceanside North River Road Storm Drains
Project Number:	
Stream:	
Cross Section ID:	T-04
Investigator(s):	Kimberly Narel
Town:	Oceanside, CA
Photo begin file#:	
Time:	11:00 AM
State:	California
Photo end file#:	
Do normal circumstances exist on the site?	Y
Is the site significantly disturbed?	N
Location Details:	The OHWM transect was taken across a channel whose source is a broken plastic culvert flowing south under North River Road before arriving in channel. Channel drains into/ forms part of the San Luis Rey River riparian corridor.
Projection:	
Coordinates:	
Latitude	33.259753
Longitude	-117.265894
Datum:	
Potential anthropogenic influences on the channel system:	Water source is from culvert which passes under North River Road and over rip rap before arriving in channel
Brief site description:	The OHWM transect was taken across a channel whose source is a broken plastic culvert flowing south under North River Road before arriving in channel. Channel drains into/ forms part of the San Luis Rey River riparian corridor.
Checklist of resources (if available):	Aerial photography, Vegetation maps, Soils maps, Global positioning system (GPS)
Dates:	2-21-25
Stream gage data	
Gage number:	
Period of record:	
Stream gage data resources:	

5. Identify the OHWM and record the indicators. Record the OHWM position via:	Digitized on computer

Cross section drawing:



OHWM	
GPS point:	
Latitude	33.259303
Longitude	-117.270318
Indicators:	Change in vegetation cover, Break in bank slope
Comments:	

Floodplain 1	
Floodplain unit:	Low-Flow Channel
GPS point:	
Latitude	33.259303
Longitude	-117.270318

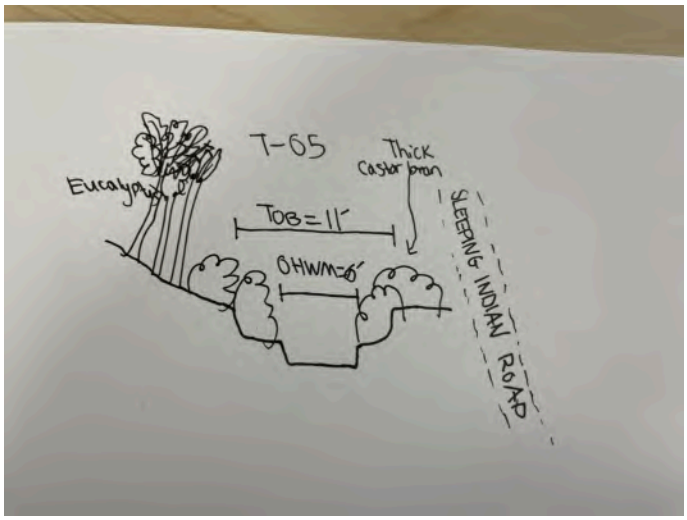
Characteristics of the floodplain unit	
Average sediment texture:	Sandy
Total veg cover:	100
Tree:	75
Shrub:	25
Herb:	
Community successional stage:	Late (herbaceous, shrubs, mature trees)
Indicators:	
Comments:	
Floodplain Photo(s)	None
Upload additional drawings and/or photos	None

Wet-12 High Water Mark v2

Project	Oceanside North River Rd Storm Drains
ID	519369
Survey Date	02/21/2025
User	Kam Muri
Project:	N. River Rd. Storm Drains
Project Number:	15161
Stream:	
Cross Section ID:	T-05
Investigator(s):	Kim Narel
Town:	Oceanside
Photo begin file#:	1
Time:	09:20 AM
State:	California
Photo end file#:	1
Do normal circumstances exist on the site?	Y
Is the site significantly disturbed?	N
Location Details:	Sleeping Indian Road
Projection:	E/W
Coordinates:	
Latitude	33.26906083333333
Longitude	-117.2631786666667
Datum	ITRF2000
Datum:	
Potential anthropogenic influences on the channel system:	Storm drain culvert
Brief site description:	Corrugated pipe storm drain culvert receives storm water from road as well as a secondary culvert that outlets beneath road and is blocked by sediment. After rain events runoff sheet flows southwest across road, as well as through culverts beneath road, and inundates into a small shallow depressional basin; then flows south, narrows and incises with top of bank on eastern side of bank. Evidence of a low flow channel that transitions to floodplain. Ephemeral stream supports eucalyptus, dense castor, bean, and scattered Willows. Eastern bank is steeply incized at about 68 inches; floodplain terminates at toe of slope along western bank.
Checklist of resources (if available):	Aerial photography, Topographic maps, Vegetation maps, Soils maps, Global positioning system (GPS)
Dates:	February 21, 2025

Stream gage data

Gage number:	
Period of record:	
Stream gage data resources:	
5. Identify the OHWM and record the indicators. Record the OHWM position via:	GPS
Cross section drawing:	



OHWM	
GPS point:	
Latitude	33.269123
Longitude	-117.2632035
Datum	WGS84
Indicators:	Change in average sediment texture, Change in vegetation cover, Break in bank slope
Comments:	OHWM About 14 inches high and 6 feet wide. Evidence of recently saturated soils, drift deposits.

Floodplain 1	
Floodplain unit:	Low-Flow Channel
GPS point:	
Latitude	33.26911466666667
Longitude	-117.2631383333333
Datum	ITRF2000
Characteristics of the floodplain unit	
Average sediment texture:	Sandy loam
Total veg cover:	50%
Tree:	10% EUC and Salix
Shrub:	30% RICCOM, 5%EUC
Herb:	5%RICCOM 5%EUC
Community successional stage:	Mid (herbaceous, shrubs, saplings)

Indicators:	Drift and/or debris, Presence of bed and bank, Soil development
Comments:	Fine sandy loam in floodplain channel. About 5 feet wide

Floodplain Photo(s)





Upload additional drawings and/or photos





WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: North River Road and Sleeping Indian Road Drainage Improv City/County: Oceanside, San Diego County Sampling Date: 01/16/2025
Applicant/Owner: City of Oceanside State: CA Sampling Point:
Investigator(s): Section, Township, Range:
Landform (hillslope, terrace, etc): Local relief (concave, convex, none): Slope (%):
Subregion (LRR): LRR C - Mediterranean California Lat: Long: Datum: WGS 84
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No X (If no, explain in Remarks.)
Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Wetland Hydrology Present?	Yes X	No	

Remarks: Wetland Sample Point taken during a drier period than normal, no significant rainfall has occurred in the area since the previous spring.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata* / Polished willow, Red willow	2	Yes	FACW
2.			
3.			
4.			
	2	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15-ft)			
1. *Baccharis salicifolia* / Mule fat	90	Yes	FAC
2. *Foeniculum vulgare* / Fennel	5	No	NI
3.			
4.			
5.			
	95	= Total Cover	
Herb Stratum (Plot size: 5-ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30-ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	2	x 2 =	4
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	97 (A)		299 (B)

Prevalence Index = B/A = 3.08

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	7.5YR 4/4	100		0			Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- X Drift Deposits (B3) **(Riverine)**
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Arid West Streamflow Duration Assessment Method

General site information

Project name or number:
North River Road and Sleeping Indian Road Drainage Improvements

Site code or identifier:	**Assessor(s):**
NWW-01	Joshua Elson, Eilleen Salas

Waterway name:	**Visit date:**
N/A	1/16/2025

Current weather conditions (check one):
□ Storm/heavy rain
□ Steady rain
□ Intermittent rain
□ Snowing
■ Cloudy (10% cover)
□ Clear/sunny

Notes on current or recent weather conditions (e.g., precipitation in prior week):

Coordinates at downstream end (decimal degrees):
Lat (N): 33.258808
Long (E): -117.270382
Datum:

Surrounding land-use within 100 m (check one or two):
□ Urban/industrial/residential
■ Agricultural (farmland, crops, vineyards, pasture)
□ Developed open-space (e.g., golf course)
□ Forested
□ Other natural
□ Other:

Describe reach boundaries:

Mean bankfull channel width (m): 0.6
(Indicator 1)

_____ _____ _____

Reach length (m):
40x width
min 40 m
max 200 m
24

Site photographs:
Enter photo ID or check if completed.
Top down: _____ Mid down: _____
Mid up: _____ Bottom up: _____

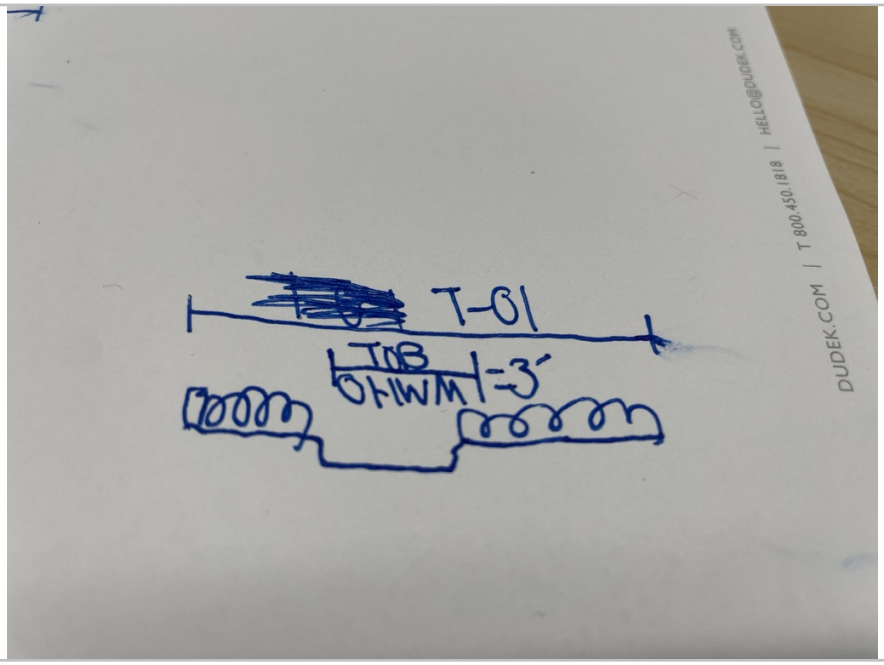
Disturbed or difficult conditions (check all that apply):
□ Recent flood or debris flow
□ Stream modifications (e.g., channelization)
□ Diversions
□ Discharges
□ Drought
□ Vegetation removal/limitations
□ Other (explain in notes)
□ None

Notes on disturbances or difficult site conditions:

Observed hydrology:
0 % of reach with surface flow
_____ % of reach with sub-surface or surface flow
0 # of isolated pools

Comments on observed hydrology:
No surface water observed during either site visit.

Site sketch:



1. Mean bankfull channel width (m) (nearest 0.1 m, copy from first page of field form)

0.6

Notes about mean bankfull channel width:

2. Aquatic macroinvertebrates: Abundance of perennial indicator taxa

Collect aquatic macroinvertebrates from at least 6 locations in the assessment reach, searching all suitable habitats on the streambed (including dry habitats, if present). Determine total abundance of individuals in perennial indicator families listed below, such that no one family counts for more than 11 individuals in the total.

Ephemeroptera	**Plecoptera**	**Trichoptera**	**Coleoptera**
Ephemerellidae (spiny crawler mayflies)	Chloroperlidae (green stoneflies)	Brachycentridae (humpless casemakers)	Elmidae (riffle beetles)
Heptageniidae (flathead mayflies)	Perlidae (common stoneflies)	Glossosomatidae (saddle casemakers)	
Leptohyphyidae (little stout crawler mayflies)		Hydropsychidae (common netspinners)	
Leptophlebiidae (prong-gilled mayflies)		Rhyacophilidae (free-living caddisflies)	

Mark the appropriate box for the number of perennial indicator individuals observed.

- ☒ No perennial indicator taxa detected
- ☐ 1 to 4 perennial indicator individuals
- ☐ 5 to 9 perennial indicator individuals
- ☐ 10 to 19 perennial indicator individuals
- ☐ 20 or more perennial indicator individuals

Check if applicable: ☐ No aquatic macroinvertebrates in assessment area

Notes on perennial indicator taxa:

No EPT present

3. Slope

Using a clinometer or other device, record the slope as a percent, up to the nearest half-percent.

2.0%

Notes about slope:

4. Number of hydrophytic plant species

Record up to 6 hydrophytic plant species (FACW or OBL in the appropriate regional wetland plant list, depending on location) within the assessment area: **within the channel or up to one half-channel width outside the channel**. Explain in notes if species has an odd distribution (e.g., one individual or small patch, long-lived species solely represented by seedlings, or long-lived species solely represented by specimens in decline), or if there is uncertainty about the identification. Enter photo ID or check if photos are taken.

1 Number of hydrophytic plant species identified from the assessment reach without odd distribution. Enter zero if none were found.

Check if applicable: ☐ No vegetation in assessment area

Species	Odd distribution?	Notes	Photo ID
Salix lasiolepis	No	Present as part of larger SLR riparian canopy	

Notes on hydrophytic vegetation:

5. Prevalence of rooted upland plants in the streambed

3 **(0-3)**

Half-scores (0.5, 1.5, and 2.5) are allowed.

Evaluate the prevalence of rooted upland plants (i.e., plants rated as FAC, FACU, UPL, NI, or not listed in the regionally appropriate National Wetland Plant List) in the streambed.

0 (Poor) Rooted upland plants are *prevalent* within the streambed/thalweg.
1 (Weak) Rooted upland plants are *consistently dispersed* throughout the streambed/thalweg.
2 (Moderate) There are *a few* rooted upland plants present within the streambed/thalweg.
3 (Strong) Rooted upland plants are *absent* from the streambed/thalweg.

Upland Species	Notes	Photo ID

Notes on rooted upland plants:

Alot of mulefat present immediately outside of streambed.

6. Algal cover

Mark the appropriate box for the percent of the streambed covered by live or dead algae on the streambed.

- ☒ Not detected
- ☐ ≤2% cover
- ☐ 2 to 10% cover
- ☐ 10 to 40% cover
- ☐ >40% cover
- ☐ Check here if algae *exclusively* appears to have been deposited from an upstream source, and *no* local growth is evident.

Notes on algal cover on the streambed:

7. Differences in vegetation

0 **(0-3)** *Half-scores (0.5, 1.5, 2.5) are allowed.*	Compare the composition and density of plants growing on the banks and riparian areas to plants in the adjacent uplands. For this indicator, an upland species is not defined by its wetland indicator status, but rather by its location relative to the channel. 0 (Poor) No compositional or density differences in vegetation are present between the banks and the adjacent uplands. 1 (Weak) Vegetation growing along the reach may occur in greater densities or grow more vigorously than vegetation in the adjacent uplands, but there are no dramatic compositional differences between the two. 2 (Moderate) A distinct riparian corridor exists along part of the reach. Riparian vegetation is interspersed with upland vegetation along the length of the reach. 3 (Strong) Dramatic compositional differences in vegetation are present between the banks and the adjacent uplands. A distinct riparian vegetation corridor exists along the entire reach. Riparian, aquatic, or wetland species dominate the length of the reach.
Notes on differences in vegetation: This is a bare channel which receives flows from a culvert and directs them into the San Luis Rey River riparian canopy. There is no veg within the channel, but the adjacent "upland" isn't really an upland as much as it is a riparian forest resulting from the larger river system.	

8. Riffle-pool sequence

0 **(0-3)** *Half-scores (0.5, 1.5, 2.5) are allowed.*	Evaluate the prevalence of riffles, pools, and other microhabitats in the streambed. 0 (Poor) No riffle-pool sequences observed. 1 (Weak) Mostly has areas of pools or riffles. 2 (Moderate) Represented by a less frequent number of riffles and pools. Distinguishing the transition between riffles and pools is difficult to observe. 3 (Strong) Demonstrated by a frequent number of structural transitions (e.g., riffles followed by pools) along the entire reach. There is an obvious transition between riffles and pools.
Notes about riffle-pool sequence:	

Photo log

Indicate if any other photographs taken during the assessment:

Photo ID	Description
	Photo points displayed in photo log

Additional notes about the assessment:

Model classification:

- ☒ Ephemeral
- ☐ At least intermittent
- ☐ Intermittent
- ☐ Less than perennial
- ☐ Perennial
- ☐ Needs more information

North River Road and Sleeping Indian Road Drainage Improvements

NWW-02 Joshua Elson, Eilleen Salas

N/A 1/16/2025

33.259289

- 10(

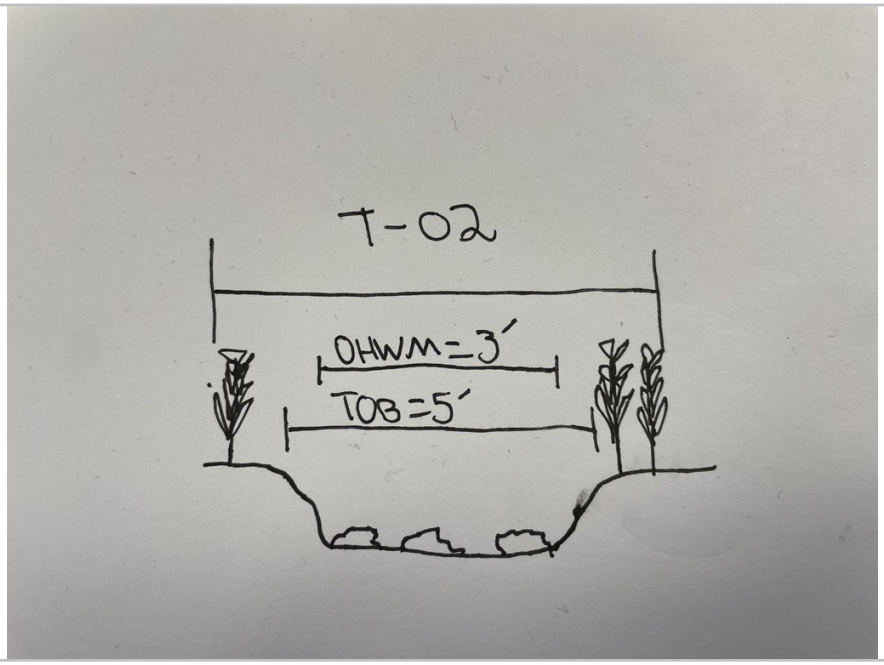
-117.265716

1.5

60

0 No surface water observed during either site visit.

0



1.5

-

No EPT present

3.5%

1

Salix lasiolepis	No	Present as part of larger SLR riparian canopy

3

Alot of mulefat present immediately outside of streambed.

-

0

This is a bare channel which receives flows from a set of culvert and directs them into the San Luis Rey River riparian canopy. There is no vegetation within the channel, but the adjacent " upland" isn't really an upland as much as it is a riparian forest resulting from the larger river system.

0

Photo points of this feature included in ARDR photo log

North River Road and Sleeping Indian Road Drainage Improvements

NWW-03 Joshua Elson, Eilleen Salas

N/A 1/16/2025

33.259430

- 10(

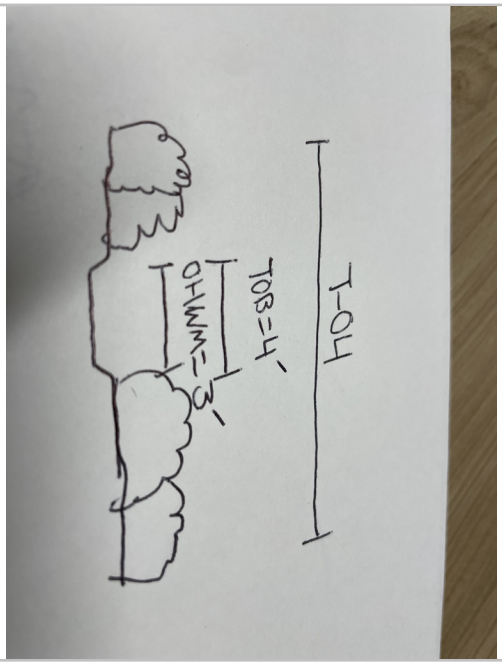
-117.265894

1.2

48

0 No surface water observed during either site visit.

0



1.2

-

No EPT present

3.0%

2

Salix lasiolepis	No	Present as part of larger SLR riparian canopy
Populus fremontii	No	Present as part of larger SLR riparian canopy

3

A lot of mulefat (FAC) present immediately outside of streambed.

-

0

This is a bare channel which receives flows from a broken culvert and directs them into the San Luis Rey River riparian canopy. There is no vegetation within the channel, but the adjacent "upland" isn't really an upland as much as it is a riparian forest resulting from the larger river system.

0

Photo points for this feature are displayed in ARDR photo log

North River Road and Sleeping Indian Road Drainage Improvements

NWW-04 Joshua Elson, Eilleen Salas

N/A 1/16/2025

33.259426

- 10(

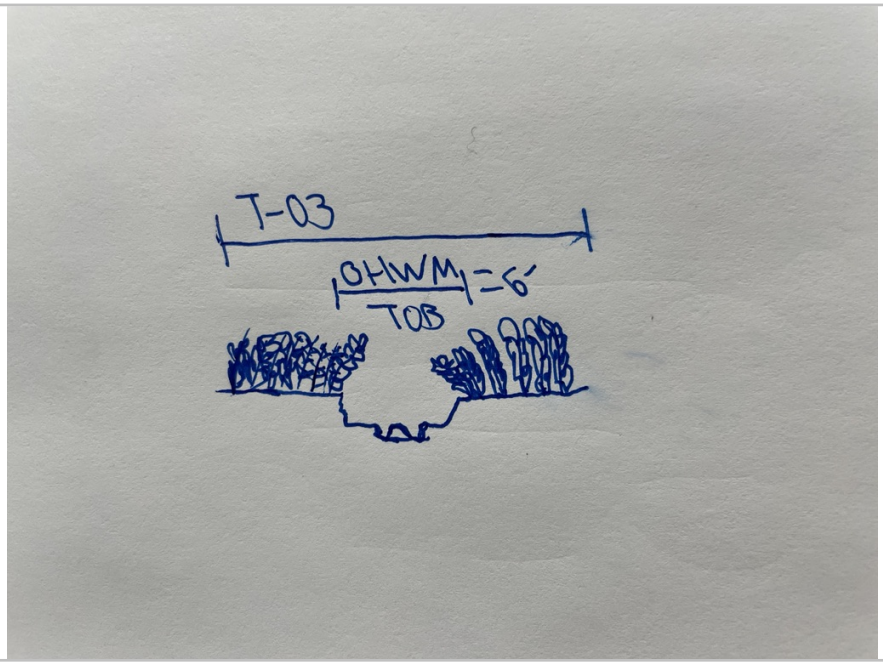
-117.264487

1.8

72

0 No surface water observed during either site visit.

0



1.8

-

No EPT present

2.5%

1

Salix lasiolepis	No	Present as part of larger SLR riparian canopy

3

Alot of mulefat (FAC) present immediately outside of streambed.

-

0

This is a bare channel which receives flows from a set of culvert and directs them into the San Luis Rey River riparian canopy. There is no vegetation within the channel.

0

Photo points of this feature included in ARDR photo log

North River Road and Sleeping Indian Road Drainage Improvements

NWW-05 Kimberly Narel

N/A 2/21/2025

33.268189

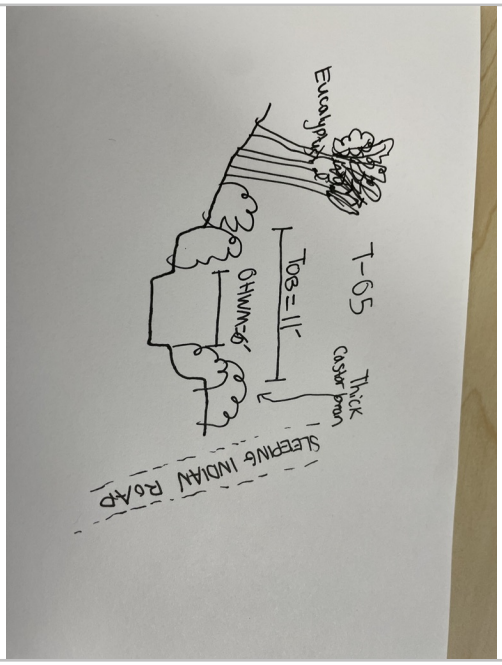
-117.263253

3.4

136

0 No surface water observed during either site visit.

0



3.4

-

No EPT present

3.0

1

Salix lasiolepis No

3

No rooted upland plants present within channel.

-

1.5

Willow trees present on edges of channel which are not present in the adjacent uplands.

0

Photo points of this feature included in OHWM form taken for feature

Appendix C
Review Area Photos



Photo 1. Overview of Non-Wetland Water (NWW)-01a north of North River Road, facing north (Photo Point 1).



Photo 2. View facing east of agricultural ditch (NWW-01b) from the east (Photo Point 1).



Photo 3. NWW-01a outlet south of North River Road, facing north (Photo Point 2).



Photo 4. East branch of NWW-01a continuing for a short distance and then dissipating, facing south by southeast (Photo Point 2).



Photo 5. NWW-01b, facing northeast. Water within ditch is presumed to be from irrigation associated with the nursery operation pictured (Photo Point 3).



Photo 6. NWW-02, north of North River Road, facing north (Photo Point 4).



Photo 7. NWW-02 flow path over Arizona crossing and into culverts under North River Road (Photo Point 5).

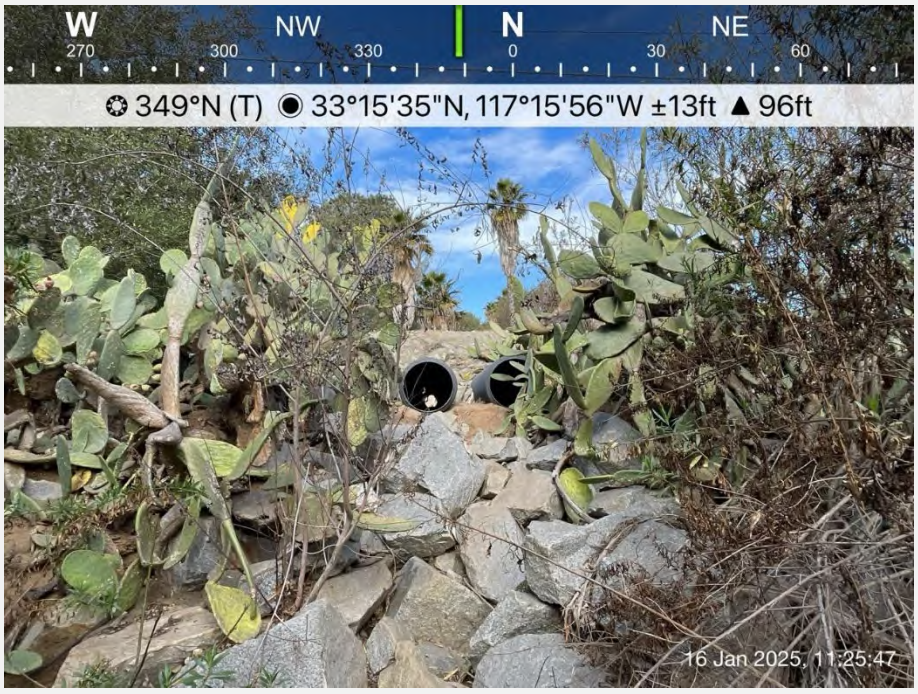


Photo 8. Culvert outlets and riprap of NWW-02 south of North River Road, facing north (Photo Point 6).



Photo 9. NWW-02 south of North River Road, facing southeast (Photo Point 6).



Photo 10. Beginning of NWW-3, south of North River Road, facing south (Photo Point 7).



Photo 11. NWW-04 south of North River Road, facing south (Photo Point 8).



Photo 12. NWW-04 south of North River Road, facing south by southwest, taken from within channel. (Photo Point 9).



Photo 13. NWW-05 southwest of Sleeping Indian Road, facing southwest (Photo Point 10).

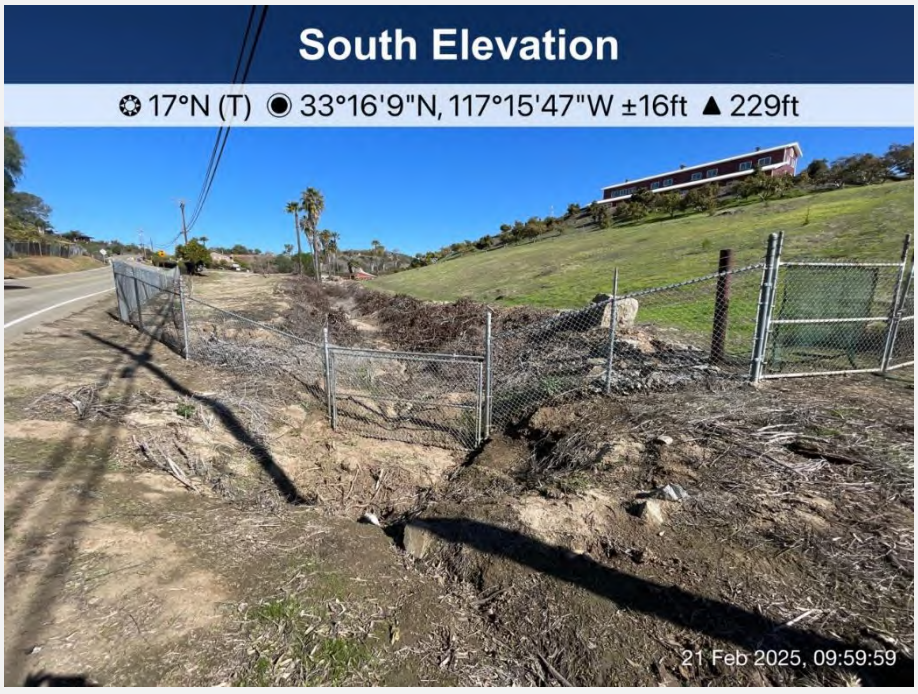


Photo 14. NWW-05 northeast of Sleeping Indian Road, facing north (Photo Point 11).



Photo 15. Wetland Sampling Point 01, taken within NWW-04.

Appendix C

Cultural Resources Inventory Report

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

April 24, 2025 15161.02

Maria Hernandez
City of Oceanside Engineering Division
300 N. Coast Hwy
Oceanside, CA 92054

Subject: Cultural Resources Inventory Report for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Hernandez:

The letter documents the cultural resources inventory conducted for the North River Road and Sleeping Indian Road Drainage Improvements Project (Project), located in the City of Oceanside, California (Figure 1). The Project would include replacement of four existing arch corrugated metal pipe culverts with four new concrete box culverts. This cultural resources inventory was conducted in accordance with the California Environmental Quality Act (CEQA), and the City of Oceanside Guidelines for historical resources. The City of Oceanside (City) is the lead agency for compliance with CEQA. In accordance with CEQA, Dudek performed a cultural resources inventory for the entire Project area. The Project area consists of the four proposed storm culvert improvements totaling approximately 1.56-acres (Figure 2).

Dudek conducted a records search for the Project area including a surrounding 1-mile buffer at the South Coastal Information Center (SCIC). A total of 33 cultural resources were identified within 1-mile of the Project area and none of these resources are located within the Project area. A total of two historic period addresses are located within 1-mile of the Project area. A Native American Heritage Commission (NAHC) Sacred Lands File search was requested, and results were negative. The pedestrian survey did not identify cultural resources within the Project area.

Although the Project area is largely developed, due to the proximity of culturally sensitive areas, number of cultural resources identified within 1-mile of the Project area, and proximity to the San Luis Rey River, there is moderate potential for subsurface cultural resources, therefore, it is recommended that a qualified archaeologist and a Traditionally and Culturally Affiliated (TCA) Native American Monitor representing a TCA Luiseño Tribe are present during all ground-disturbing activities that may impact subsurface native soils. Monitoring can be reduced or terminated should no discoveries be made or if documentation is provided which demonstrates that ground-disturbing activities will be occurring in sediments with no potential for cultural resources. If human remains are found, the County Coroner shall be immediately notified of the discovery in accordance with Section 7050.5 of the California Health and Safety Code.

1 Project Description and Location

The Project is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The Project

area falls within Section 35 of Township 10 South, Range 5 West of the Moro Hills 7.5-4minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

The Project would include replacement of four existing arch corrugated metal pipe culverts with four new concrete box culverts. Culvert 1 is located along Sleeping Indian Road, approximately 0.5 miles north of the Sleeping Indian Road and North River Road intersection. Culvert 1 is oriented northeast/southwest underneath Sleeping Indian Road, which runs generally north to south. Culverts 2-4 are oriented north/south underneath North River Road, which runs generally east/west. Culvert 2 is located along North River Road, immediately to the west of the Sleeping Indian Road and North River Road intersection. Culvert 3 is located along North River Road, approximately 0.1 miles west of Culvert 2. Culvert 4 is located along North River Road, approximately 0.25 miles west of Culvert 3. The Project area consists of the proposed storm culvert improvements totaling approximately 1.56-acres (Figure 2).

2 Regulatory Framework

2.1 The California Register of Historic Resources (Public Resources Code section 5020 et seq.)

Under CEQA, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code section 5020.1(j)). In 1992, the California legislature established CRHR "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (California Public Resources Code section 5024.1(a)). A resource is eligible for listing in the CRHR if the State Historical Resources Commission determines that it is a significant resource and that it meets any of the following National Register of Historic Places (NRHP) criteria:

- Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Associated with the lives of persons important in our past.
- 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.
- Has yielded, or may be likely to yield, information important in prehistory or history.

(California Public Resources Code section 5024.1(c).) Resources less than 50 years old are not considered for listing in the CRHR, but may be considered if it can be demonstrated that sufficient time has passed to understand the historical importance of the resource (see 14 CCR, section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing on the NRHP are automatically listed on the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys. The State Historic Preservation Officer maintains the CRHR.

2.2 Native American Historic Cultural Sites (California Public Resources Code section 5097 et seq.)

State law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

2.3 California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act), enacted in 2001, required all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.

2.4 California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological and historic resources:

1. California Public Resources Code section 21083.2(g): Defines "unique archaeological resource."
2. California Public Resources Code section 21084.1 and CEQA Guidelines section 15064.5(a): Define historical resources. In addition, CEQA Guidelines section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource;" it also defines the circumstances when a project would materially impair the significance of a historical resource.
3. California Public Resources Code section 5097.98 and CEQA Guidelines section 15064.5(e): Set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
4. California Public Resources Code sections 21083.2(b)-(c) and CEQA Guidelines section 15126.4: Provide information regarding the mitigation framework for archaeological and historic resources, including options of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

Under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (California Public Resources Code section 21084.1; CEQA Guidelines section 15064.5(b)). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements

of California Public Resources Code section 5024.1(q)), it is a "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA (California Public Resources Code section 21084.1; CEQA Guidelines section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (California Public Resources Code section 21084.1; CEQA Guidelines section 15064.5(a)).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines section 15064.5(b)(1); California Public Resources Code section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

2.5 California Health and Safety Code section 7050.5 and Public Resources Code Section 5097.98

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98.

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (California Health and Safety Code Section 7050.5[b]). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (California Health and Safety Code Section 7050.5[c]). In accordance with California Public Resources Code Section 5097.98(a), the NAHC will notify the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. Within 48 hours of being granted access to the site, the MLD may recommend means of treatment or disposition, with appropriate dignity, of the human remains and associated grave goods.

2.6 Assembly Bill 52

California Assembly Bill 52, which took effect July 1, 2015, establishes a consultation process between California Native American Tribes and lead agencies in order to address tribal concerns regarding project impacts and mitigation to "tribal cultural resources" (TCR). Public Resources Code section 21074(a) defines TCRs and states that a project that has the potential to cause a substantial adverse change to a TCR is a project that may have an adverse effect on the environment. A TCR is defined as a site, feature, place, cultural landscape, sacred place, and object with cultural value to a California Native American tribe that is either:

1. listed or eligible for listing in the CRHR or a local register of historical resources, or
2. determined by a lead agency to be a TCR.

2.7 City of Oceanside Guidelines

Chapter 14A of the City of Oceanside Municipal Code, referred to as the Historical Preservation Ordinance, identifies evaluation criteria under which a historical site or area may be designated (City of Oceanside 2017: Section 14A.6, Ordinance No. 82-14, Section 1, 9-8-82):

a) It exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic, engineering, or architectural history; or
b) It is identified with persons or events significant in local, state, or national history; or
c) It embodies distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship; or
d) It is representative of the notable work of a builder, designer, or architect; or
e) It is found by the council to have significant characteristics which should come under the protection of this chapter.

3 Methods

3.1 Records Search

Previous Studies

Dudek conducted a California Historical Resources Information System (CHRIS) records search and a 1-mile radius of the Project area at the South Coastal Information Center (SCIC) on January 9, 2025. The records search results indicate that 74 previous cultural resources studies have been conducted within 1-mile of the Project area. Of the 74 studies, two studies intersect the Project area and are listed in Table 1 below. These studies include an archaeological survey report and a cultural and historical resources study. Approximately 50% of the Project area overlaps with previous cultural resources studies. None of the previous cultural resources studies identified any resources within the Project area. The studies that are not listed in Table 1 are included in Confidential Appendix A.

Table 1. Previous Cultural Studies Intersecting the Project Area

Report Number	Date	Authors	Title
SD-10417	2006	MOONEY, JONES & STOKES	ARCHAEOLOGICAL SURVEY REPORT FOR THE REALIGNMENT OF STATE ROUTE 76, SAN DIEGO COUNTY, CALIFORNIA
SD-14069	2011	ASM AFFILIATES, INC.	CULTURAL AND HISTORICAL RESOURCE STUDY FOR THE CITY OF OCEANSIDE GENERAL PLAN – CIRCULATION ELEMENT UPDATE PROGRAM ENVIRONMENTAL IMPACT REPORT (PEIR)

Previously Recorded Resources

The SCIC records search results did not identify any cultural resources within the Project area. The records search results identified 33 previously recorded resources within 1-mile of the Project. Of the total 33 resources identified within 1-mile of the Project area, 18 are prehistoric resources (three bedrock milling sites, one temporary camp, four artifact scatters, one shell scatter, one lithic scatter, and eight isolates); and 15 are historic period single family properties. A total of two historic period addresses are located within 1-mile of the Project area and are not located within the Project area. The full results of the records search and all Department of Parks and Recreation forms are located in Confidential Appendix A.

Table 1. Previously Recorded Cultural Resources within 1-Mile of the Project Area

P-Number	Trinomial	Age	Description	Eligibility
Resources Located Outside of the Project Area				
P-37-012734	CA-SDI-012734	Historic	Single-family residence, garage, two barns, livestock shelter, shacks	Not evaluated
P-37-013162	CA-SDI-013162	Prehistoric	Bedrock milling	Not evaluated
P-37-014133	CA-SDI-014047	Prehistoric	Temporary camp with bedrock milling	Not evaluated
P-37-014985	-	Prehistoric	Isolate: core	Not eligible
P-37-019034	CA-SDI-013740	Prehistoric	Artifact scatter	Not evaluated
P-37-019035	CA-SDI-013742	Prehistoric	Artifact scatter	Not eligible
P-37-019036	CA-SDI-013743	Prehistoric	Shell scatter	Not eligible
P-37-019037	CA-SDI-013744	Prehistoric	Artifact scatter	Not evaluated
P-37-023879	CA-SDI-013741	Prehistoric	Artifact scatter	Not eligible
P-37-024246	CA-SDI-016083	Prehistoric	Bedrock milling	Not evaluated
P-37-028449	CA-SDI-018357	Prehistoric	Bedrock milling	Not eligible
P-37-028562	CA-SDI-018371	Prehistoric	Lithic scatter	Not evaluated
P-37-032333	-	Prehistoric	Isolate: handstone	Not eligible
P-37-032334	-	Prehistoric	Isolate: flake	Not eligible
P-37-032335	-	Prehistoric	Isolate: core	Not eligible
P-37-032336	-	Prehistoric	Isolate: handstone	Not eligible

Table 1. Previously Recorded Cultural Resources within 1-Mile of the Project Area

P-Number	Trinomial	Age	Description	Eligibility
P-37-032337	-	Prehistoric	Isolate: flake	Not eligible
P-37-032338	-	Prehistoric	Isolate: flake	Not eligible
P-37-037097	-	Prehistoric	Isolate: milling slab	Not eligible
P-37-039794	-	Historic	Single-family residence	Not eligible
P-37-039795	-	Historic	Single-family residence	Not eligible
P-37-039796	-	Historic	Single-family residence	Not eligible
P-37-039797	-	Historic	Single-family residence	Not eligible
P-37-039798	-	Historic	Single-family residence	Not eligible
P-37-039799	-	Historic	Single-family residence	Not eligible
P-37-039800	-	Historic	Single-family residence	Not eligible
P-37-039801	-	Historic	Single-family residence	Not eligible
P-37-039802	-	Historic	Single-family residence	Not eligible
P-37-039803	-	Historic	Single-family residence	Not eligible
P-37-039804	-	Historic	Single-family residence	Not eligible
P-37-039805	-	Historic	Single-family residence	Not eligible
P-37-039806	-	Historic	Single-family residence	Not eligible
P-37-039807	-	Historic	Single-family residence	Not eligible

3.2 Archival Research

Dudek conducted an online review of historical topographic maps, and historic aerial photographs to understand the development of the Project area and surrounding landscape through time. Historic aerial photographs for the Project area were available for the years of 1938 to 2022 (NETR 2025). On the 1938 aerial, North River Road is observed and the San Luis Rey River is observed to the south of the Project area. Sleeping Indian Road is not observed, however, a dirt trail is visible in its place. The surrounding area consists of undeveloped or agricultural lands. On the 1946 aerial, the alignment of Sleeping Indian Road is observed along with additional agricultural lands within the surrounding vicinity. On the 1964 aerial, the Sleeping Indian Road alignment is fully observed. No substantial changes are observed within the Project area on subsequent aerials.

Historical topographic (topo) maps of the Project area were available from 1942 to 2021 (NETR 2025). The earliest available topo map from 1942 shows North River Road, the San Luis Rey River to the south of the Project area, and numerous blue lines within the Project vicinity. North River Road and Sleeping Indian Road are observed on the 1969 topo map. There is little change in the land use of the Project area as depicted in the historic topo maps to the most recent available topo map from 2021. Based on a review of the historical maps, no historic-age structures are located within the Project area.

3.3 Review of Geomorphological Context

According to the U.S. Department of Agriculture Natural Resources Conservation Services (USDA 2025), three soil types are mapped in the Project area, consisting of Tujunga sand, 0 to 5 percent slopes, Placentia sandy loam, 5

to 9 percent slopes, eroded; and Cieneba-Rock outcrop complex, 30 to 75 percent slopes, very stony. The Tujunga sand series generally occurs in flood plains at elevations ranging from 10 to 2,500 feet and consists of alluvium derived from granite. The Placentia sandy loam series generally occurs within alluvial fans at elevations ranging from 50 to 2,500 feet and consists of alluvium derived from granite. The Cieneba-Rock series generally occurs on hillslopes at elevations ranging from 3,670 to 4,440 feet and consists of residuum weathered from quartz-diorite (USGS 2025). The Project area is also located in close proximity to the San Luis Rey River, which would have been an attractive location for prehistoric camps or habitation sites. Reoccurring alluvial action and flooding serve to support the development and presence of cultural deposits in the area. Since there are alluvial soils present throughout the Project area, there is moderate potential for subsurface cultural resources.

3.4 NAHC and Tribal Correspondence

A search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was requested on December 6, 2024 for the Project area. The SLF consists of a database of known Native American resources. These resources may not be included in SCIC database. The NAHC responded on December 26, 2024 with negative results (Appendix B). The NAHC additionally provided a list of Native American tribes and individuals/organizations with traditional geographic associations that might have knowledge of cultural resources in this area.

Outreach letters were mailed on January 17, 2025 to all Native American group representatives included on the NAHC contact list (Appendix B). These letters attempted to solicit additional information relating to Native American resources that may be impacted by the Project. Native American representatives were requested to define a general area where known resources intersect the Project area. Two responses have been received to date. The Rincon Band of Luiseño Indians responded on February 3, 2025 stating the Project is located in their Traditional Use Area and Area of Historic Interest and that the Rincon Band is traditionally and culturally affiliated to the Project area. Additionally, the Rincon Band mentioned that the Project area is culturally sensitive with many resources and known gathering areas, and they would like to consult with the lead agency. The San Luis Rey Band of Mission Indians responded on February 19, 2025 stating they are traditionally and culturally affiliated with the Project area, have knowledge about many discoveries made throughout the Project area, are aware of cultural resource sites within close proximity to the Project, and recommended the presence of a Luiseño Native American monitor during all ground disturbing activities. The Pauma Band of Luiseño Indians responded on March 5, 2025 stating that they would like to initiate consultation to ensure that they are in communication regarding inadvertent discoveries and any potential impact to the cultural landscape and/or resources during the Project. These letters have been forwarded to the City. The NAHC correspondence is included in Appendix B.

In compliance with Assembly Bill 52, the City, as lead agency, is responsible for conducting government to government consultation with pertinent tribal entities.

3.5 Intensive Pedestrian Survey

The current intensive pedestrian field survey was conducted by Dudek archaeologist, David Faith on January 17, 2025. Saving Sacred Sites Luiseño Native American Monitor, Anthony Cuevas participated in the survey. A subsequent survey was conducted by Dudek archaeologist Makayla Murillo on February 21, 2025, and Saving Sacred Sites Luiseño Native American Monitor, Shea Casteneda participated in the survey. All survey work was conducted employing standard archaeological procedures and techniques consistent with Secretary of the Interior

Standards. Five-meter interval survey transects were conducted. Where the ground surface was visible, the ground surface was examined for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of the current or former presence of structures or buildings (e.g., standing exterior walls, post holes, foundations), and historic artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as rodent/reptile burrows, cut banks, and drainages were also visually inspected for exposed subsurface materials.

The Project area consists of four culverts installed underneath the roadway along North River Road and Sleeping Indian Road. Ground visibility of the Project area was poor (0-25%), as the ground surface was obscured by dead foliage and the existing development of the energy dissipater and storm drain outlets. The Project area has been previously disturbed from the installment of the culverts, including the placement of riprap along some of the embankments (Exhibit 1), and the placement of concrete along the embankments (Exhibit 2). A minimal amount of modern trash was also noted within the drainages. Vegetation was observed along the banks, consisting of dried grasses, castor bean, and willows. Soils consist of a light brown sandy loam. No artifacts or features were identified during the survey. No cultural resources are located within the Project area. Additionally, Mr. Cuevas expressed that he would like cultural monitoring to occur for any ground disturbance for the Project.

4 Summary and Management Considerations

4.1 Archaeological Recommendations

The SCIC records search and the pedestrian survey did not identify cultural resources within the Project area. Although the Project area is largely developed, due to the proximity of culturally sensitive areas, number of cultural resources identified within 1-mile of the Project area, and proximity to the San Luis Rey River, there is moderate potential for subsurface cultural resources. It is recommended that a qualified archaeologist and a Traditionally and Culturally Affiliated (TCA) Native American Monitor representing a TCA Luiseño Tribe are present during all ground-disturbing activities that may impact subsurface native soils. Monitoring can be reduced or terminated should no discoveries be made or if documentation is provided which demonstrates that ground-disturbing activities will be occurring in sediments with no potential for cultural resources. If human remains are found, the County Coroner shall be immediately notified of the discovery in accordance with Section 7050.5 of the California Health and Safety Code. Management recommendations to reduce potential impacts to unanticipated archaeological resources and human remains during construction activities are provided below.

Should you have any questions relating to this report and its findings, please do not hesitate to contact me at 619.949.3082 or kmontifolca@dudek.com.

Sincerely,



Keshia Montifolca, M.A., RPA
Archaeologist

Att.: *Figure 1, Project Location*
Figure 2, Project Area
Exhibit 1, Overview of Culvert 2, view facing east.
Exhibit 2, Overview of Culvert 3, view facing west.
National Archaeological Database Information Sheet
Confidential Appendix A, SCIC Records Search Results
Appendix B, Tribal Correspondence

cc: *Alex Hardy, Micah Hale, Dudek*

6 References

City of Oceanside 2017. *Municipal Code*. Chapter 14A. Historical Resources. Oceanside, CA.

NETR (National Environmental Title Research, LLC) 2025. Area search for: North Coast Highway, CA. Accessed January 15, 2025. http://www.historicaerials.com/.

USDA (U.S. Department of Agriculture). 2025. Web Soil Survey. USDA, Natural Resources Conservation Service, Soil Survey Staff. Accessed January 15, 2025. http://websoilsurvey.nrcs.usda.gov



Exhibit 1. Overview of Culvert 2, view facing east.



Exhibit 2. Overview of Culvert 3, view facing west.

National Archaeological Database (NADB) Information

Authors:	Keshia Montifolca M.A., RPA, and David Faith, M.A., RPA
Firm:	Dudek
Project Proponent:	City of Oceanside
Report Date:	April 2025
Report Title:	Cultural Resources Inventory Report for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California
Type of Study:	Phase I Inventory
Resources:	None
USGS Quads:	Moro Hills, California, Township 10 South, Range 4 West, Section 35
Acreage:	1.56
Permit Numbers:	N/A
Keywords:	Negative Pedestrian Survey, Inventory, City of Oceanside, North River Road and Sleeping Indian Road Drainage Improvements

Confidential Appendix A

SCIC Records Search Results

Appendix B
Tribal Correspondence

Keshia Montifolca

From: Keshia Montifolca
Sent: Friday, December 6, 2024 12:21 PM
To: nahc@nahc.ca.gov
Subject: North River and Sleeping Indian Rd Drainage Improvements Project (PN 15161.02)
Attachments: Sacred Lands File Contact Form -North River Drainage PN 15161.02.pdf

Hello,

Please see attached for a Sacred Lands File Search request for the North River and Sleeping Indian Rd Drainage Improvements Project (PN 15161.02). Let me know if you have any questions or need additional information.

Thank you!

Keshia Montifolca
Archaeologist
DUDEK

O: 619 949 3082 **C:** 619 372 6255
dudek.com



Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95501
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

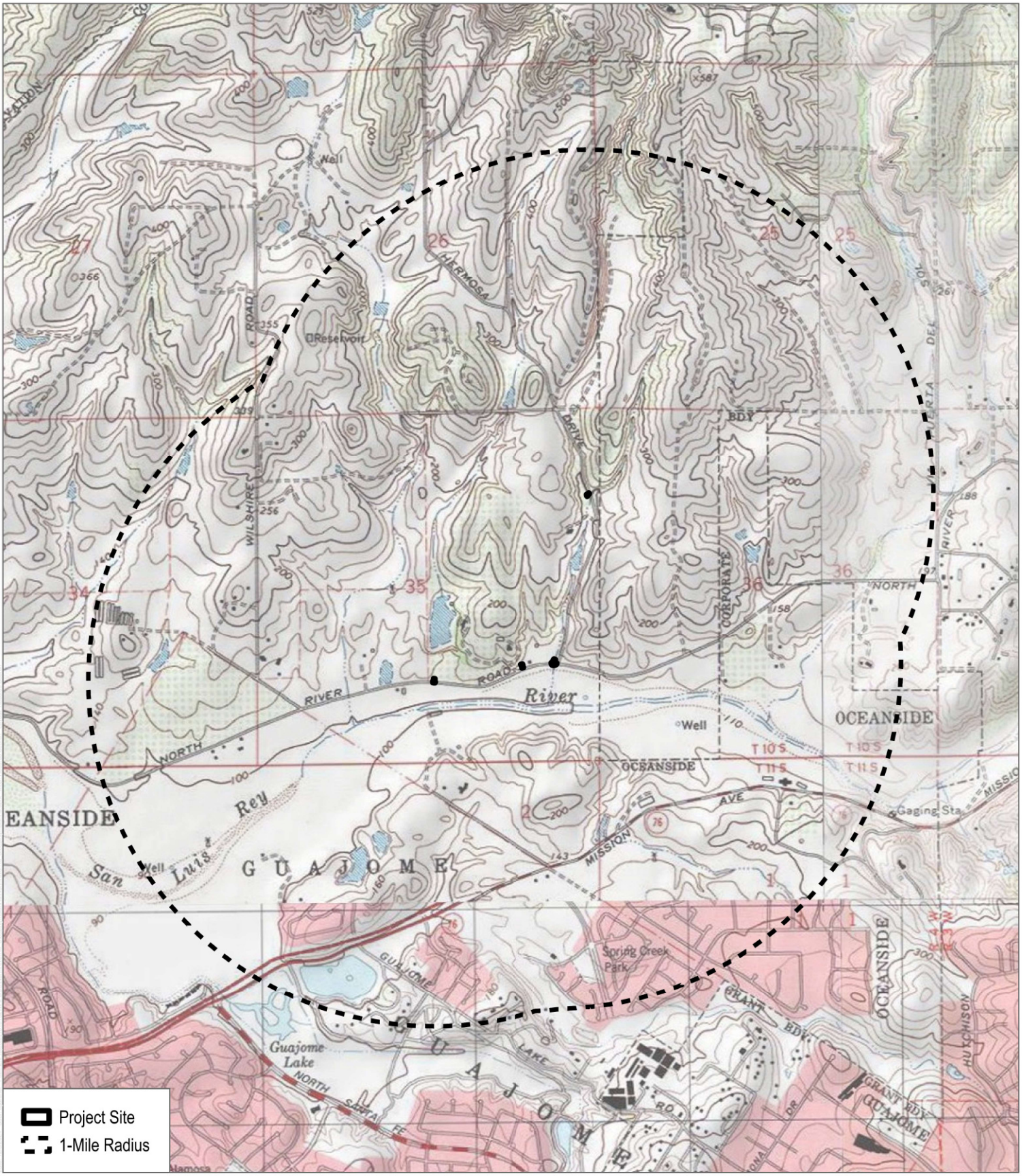
Project: North River and Sleeping Indian Rd Drainage Improvements Project (PN 15161.02)
County: San Diego

USGS Quadrangle
Name: Moro Hills
Township: 10S Range: 4W Section(s): 35

Company/Firm/Agency:
Dudek
Contact Person: Keshia Montifolca
Street Address: 605 Third Street
City: Encinitas, CA Zip: 92024
Phone: (619) 949-3082 Extension:
Fax:
Email: kmontifolca@dudek.com

Project Description:
The project would involve the replacement and/or improvements to four existing storm drains along North River Road and Sleeping Indian Road, in Oceanside, California.

☑ Project Location Map is attached



SOURCE: USGS 7.5-Minute Series - Moro Hills Quadrangle - Township 10S Range 4W Section 35

DUDEK

Records Search

North River Rd and Sleeping Indian Rd Drainage Improvements Project

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Laurena Bolden
Serrano

COMMISSIONER
Reid Milanovich
Cahuilla

COMMISSIONER
Bennae Calac
Pauma-Yuima Band of Luiseño Indians

ACTING EXECUTIVE SECRETARY
Steven Quinn

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

December 26, 2024

Keshia Montifolca
Dudek

Via Email to: kmontifolca@dudek.com

Re: North River and Sleeping Indian Rd Drainage Improvements Project, San Diego County

To Whom It May Concern:

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: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Diego County
12/26/2024

Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Barona Group of the Capitan Grande	F	Art Bunce, Attorney		(760) 489-0329		buncelaw@aol.com	Diegueno	Imperial,San Diego	7/25/2023
Campo Band of Diegueno Mission Indians	F	Ben Dyche, Vice Chairperson	36190 Church Road, Suite 1 Campo, CA, 91906	(619) 478-9046		bdyche@campo-nsn.gov	Diegueno	Imperial,San Diego	5/24/2024
Campo Band of Diegueno Mission Indians	F	Daniel Tsosie, THPO	36190 Church Road, Suite 1 Campo, CA, 91906	(619) 760-6480		dtsosie@campo-nsn.gov	Diegueno	Imperial,San Diego	5/24/2024
Campo Band of Diegueno Mission Indians	F	Marcus Cuero, Chairperson	36190 Church Road, Suite 1 Campo, CA, 91906	(619) 478-9046		marcuscuero@campo-nsn.gov	Diegueno	Imperial,San Diego	5/15/2024
Ewiiaapaayp Band of Kumeyaay Indians	F	Michael Garcia, Vice Chairperson	4054 Willows Road Alpine, CA, 91901	(619) 933-2200	(619) 445-9126	michaelg@leaningrock.net	Diegueno	Imperial,San Diego	
Ewiiaapaayp Band of Kumeyaay Indians	F	Robert Pinto, Chairperson	4054 Willows Road Alpine, CA, 91901	(619) 368-4382	(619) 445-9126	ceo@ebki-nsn.gov	Diegueno	Imperial,San Diego	
Iipay Nation of Santa Ysabel	F	Clint Linton, Director of Cultural Resources	P.O. Box 507 Santa Ysabel, CA, 92070	(760) 803-5694		clint@redtailenvironmental.com	Diegueno	Imperial,San Diego	11/30/2023
Inaja-Cosmit Band of Indians	F	Rebecca Osuna, Chairperson	2005 S. Escondido Blvd. Escondido, CA, 92025	(760) 737-7628	(760) 747-8568		Diegueno	Imperial,San Diego	
Jamul Indian Village	F	Lisa Cumper, Tribal Historic Preservation Officer	P.O. Box 612 Jamul, CA, 91935	(619) 669-4855		lcumper@jiv-nsn.gov	Diegueno	Imperial,San Diego	9/5/2018
Jamul Indian Village	F	Erica Pinto, Chairperson	P.O. Box 612 Jamul, CA, 91935	(619) 669-4785	(619) 669-4817	epinto@jiv-nsn.gov	Diegueno	Imperial,San Diego	
Juaneno Band of Mission Indians Acjachemen Nation - Belardes	N	Joyce Perry, Cultural Resource Director	4955 Paseo Segovia Irvine, CA, 92603	(949) 293-8522		kaamalam@gmail.com	Juaneno	Los Angeles,Orange,Riverside,San Bernardino,San Diego	3/17/2023
Juaneno Band of Mission Indians Acjachemen Nation 84A	N	Heidi Lucero, Chairperson, THPO	31411-A La Matanza Street San Juan Capistrano, CA, 92675	(562) 879-2884		jbmian.chairwoman@gmail.com	Juaneno	Los Angeles,Orange,Riverside,San Bernardino,San Diego	3/28/2023

Native American Heritage Commission
Native American Contact List
San Diego County
12/26/2024

La Jolla Band of Luiseno Indians	F	Norma Contreras, Chairperson	22000 Highway 76 Pauma Valley, CA, 92061	(760) 742-3771			Luiseno	Orange,Riverside,San Diego	
La Posta Band of Diegueno Mission Indians	F	Gwendolyn Parada, Chairperson	8 Crestwood Road Boulevard, CA, 91905	(619) 478-2113	(619) 478-2125	LP13boots@aol.com	Diegueno	Imperial,San Diego	
Manzanita Band of Kumeyaay Nation	F	Angela Elliott Santos, Chairperson	P.O. Box 1302 Boulevard, CA, 91905	(619) 766-4930	(619) 766-4957		Diegueno	Imperial,San Diego	
Mesa Grande Band of Diegueno Mission Indians	F	Michael Linton, Chairperson	P.O Box 270 Santa Ysabel, CA, 92070	(760) 782-3818	(760) 782-9092		Diegueno	Imperial,San Diego	
Pala Band of Mission Indians	F	Christopher Nejo, Legal Analyst/Researcher	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3564		cnejo@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego	11/27/2023
Pala Band of Mission Indians	F	Alexis Wallick, Assistant THPO	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3537		awallick@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego	11/27/2023
Pala Band of Mission Indians	F	Shasta Gaughen, Tribal Historic Preservation Officer	PMB 50, 35008 Pala Temecula Road Pala, CA, 92059	(760) 891-3515		sgaughen@palatribe.com	Cupeno Luiseno	Orange,Riverside,San Bernardino,San Diego	11/27/2023
Pauma Band of Luiseno Indians	F	Temet Aguilar, Chairperson	P.O. Box 369 Pauma Valley, CA, 92061	(760) 742-1289	(760) 742-3422	bennaecalac@aol.com	Luiseno	Orange,Riverside,San Diego	
Pechanga Band of Indians	F	Steve Bodmer, General Counsel for Pechanga Band of Indians	P.O. Box 1477 Temecula, CA, 92593	(951) 770-6171	(951) 695-1778	sbodmer@pechanga-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,San Bernardino,San Diego,Santa Barbara,Ventura	8/2/2023
Pechanga Band of Indians	F	Tuba Ebru Ozdil, Pechanga Cultural Analyst	P.O. Box 2183 Temecula, CA, 92593	(951) 770-6313	(951) 695-1778	eozdil@pechanga-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,San Bernardino,San Diego,Santa Barbara,Ventura	8/2/2023
Rincon Band of Luiseno Indians	F	Cheryl Madrigal, Cultural Resources Manager/Tribal Historic Preservation Officer	One Government Center Lane Valley Center, CA, 92082	(760) 648-3000		cmadrigal@rincon-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,San Bernardino,San Diego,Santa Barbara,Ventura	5/31/2023
Rincon Band of Luiseno Indians	F	Joseph Linton, Tribal Council/Culture Committee Member	One Government Center Lane Valley Center, CA, 92082	(760) 803-3548		jlinton@rincon-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,San Bernardino,San Diego,Santa Barbara,Ventura	5/31/2023

Native American Heritage Commission
Native American Contact List
San Diego County
12/26/2024

Rincon Band of Luiseno Indians	F	Denise Turner Walsh, Attorney General	One Government Center Lane Valley Center, CA, 92082	(760) 689-5727		dwalsh@rincon-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,San Bernardino,San Diego,Santa Barbara,Ventura	7/7/2023
Rincon Band of Luiseno Indians	F	Laurie Gonzalez, Tribal Council/Culture Committee Member	One Government Center Lane Valley Center, CA, 92082	(760) 484-4835		lgonzalez@rincon-nsn.gov	Luiseno	Los Angeles,Orange,Riverside,San Bernardino,San Diego,Santa Barbara,Ventura	5/31/2023
San Luis Rey Band of Mission Indians	N	Carmen Mojado, Secretary of Goverment Affairs	1889 Sunset Drive Vista, CA, 92083	(760) 724-8505	(760) 724-2172	cjmojado@slrmissionindians.org	Luiseno	Orange,Riverside,San Diego	4/15/2024
San Pasqual Band of Diegueno Mission Indians	F	John Flores, Environmental Coordinator	P. O. Box 365 Valley Center, CA, 92082	(760) 749-3200	(760) 749-3876	johnf@sanpasqualtribe.org	Diegueno	Imperial,San Diego	8/16/2016
San Pasqual Band of Diegueno Mission Indians	F	Allen Lawson, Chairperson	P.O. Box 365 Valley Center, CA, 92082	(760) 749-3200	(760) 749-3876		Diegueno	Imperial,San Diego	
Soboba Band of Luiseno Indians	F	Joseph Ontiveros, Tribal Historic Preservation Officer	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-5279	(951) 654-4198	jontiveros@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	7/14/2023
Soboba Band of Luiseno Indians	F	Jessica Valdez, Cultural Resource Specialist	P.O. Box 487 San Jacinto, CA, 92581	(951) 663-6261	(951) 654-4198	jvaldez@soboba-nsn.gov	Cahuilla Luiseno	Imperial,Los Angeles,Orange,Riverside,San Bernardino,San Diego	7/14/2023
Sycuan Band of the Kumeyaay Nation	F	Cody Martinez, Chairman	Sycuan Tribal Office: 1 Kwaaypaay Court El Cajon, CA, 92019	(619) 445-2613		cmartinez@sycuan-nsn.gov	Kumeyaay	Imperial,San Diego	8/7/2023
Sycuan Band of the Kumeyaay Nation	F	Bernice Paipa, Cultural Resource Specialist	Sycuan Cultural Center: 910 Willow Glen Drive El Cajon, CA, 92019	(619) 445-6917		bpaipa2@sycuan-nsn.gov	Kumeyaay	Imperial,San Diego	8/7/2023
Viejas Band of Kumeyaay Indians	F	Ray Teran, Resource Management Director	1 Viejas Grade Road Alpine, CA, 91901	(619) 659-2312		rteran@viejas-nsn.gov	Kumeyaay	Imperial,San Diego	6/29/2023
Viejas Band of Kumeyaay Indians	F	Ernest Pingleton, THPO	1 Viejas Grade Road Alpine, CA, 91901	(619) 445-3810		epingleton@viejas-nsn.gov	Kumeyaay	Imperial,San Diego	6/29/2023

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 Resources Code and 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 North River and Sleeping Indian Rd Drainage Improvements Project, San Diego County.

Record: PROJ-2024-006641
Report Type: List of Tribes
Counties: San Diego
NAHC Group: All

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Mr. Art Bunce, Attorney
Barona Group of the Capitan Grande
Buncelaw@aol.com

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Bunce,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

The Native American Heritage Commission conducted a Sacred Lands file search. The results were negative. I am writing as part of the cultural inventory process in order find out if you, or your tribal community, have any knowledge of cultural resources or places that may be impacted by the proposed project.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources.

If you have any information or concerns pertaining to such information, please contact me.

Respectfully,



Keshia Montifolca
Archaeologist
DUDEK
Phone: 619.949.3082
Email: kmontifolca@dudek.com

Attachment: Figure 1. Project Location

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Mr. Ben Dyche, Vice Chairperson
Campo Band of Diegueno Mission Indians
36190 Church Road, Suite 1
Campo, CA 91906

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Dyche,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

The Native American Heritage Commission conducted a Sacred Lands file search. The results were negative. I am writing as part of the cultural inventory process in order find out if you, or your tribal community, have any knowledge of cultural resources or places that may be impacted by the proposed project.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources.

If you have any information or concerns pertaining to such information, please contact me.

Respectfully,



Keshia Montifolca
Archaeologist
DUDEK
Phone: 619.949.3082
Email: kmontifolca@dudek.com

Attachment: Figure 1. Project Location

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Mr. Daniel Tsosie, THPO
Campo Band of Mission Indians
36190 Church Road, Suite 1
Campo, CA 91906

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Tsosie,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

The Native American Heritage Commission conducted a Sacred Lands file search. The results were negative. I am writing as part of the cultural inventory process in order find out if you, or your tribal community, have any knowledge of cultural resources or places that may be impacted by the proposed project.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources.

If you have any information or concerns pertaining to such information, please contact me.

Respectfully,

Keshia Montifolca
Archaeologist
DUDEK
Phone: 619.949.3082
Email: kmontifolca@dudek.com

Attachment: Figure 1. Project Location

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Mr. Marcus Cuero, Chairperson
Campo Band of Mission Indians
36190 Church Road, Suite 1
Campo, CA 91906

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Cuero,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Mr. Robert Pinto, Chairperson
Ewiaapaayp Band of Kumeyaay Indians
4054 Willow Rd.
Alpine, CA 91901

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Pinto,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Mr. Michael Garcia, Vice Chairperson
Ewiiaapaayp Band of Kumeyaay Indians
4054 Willows Road
Alpine, CA 91901

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Garcia,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Ms. Rebecca Osuna, Chairperson
Inaja-Cosmit Band of Indians
2005 S. Escondido Blvd.
Escondido, CA 92025

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Osuna,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Mr. Clint Linton, Director of Cultural Resources
Ipay Nation of Santa Ysabel
P.O. Box 507
Santa Ysabel, CA 92070

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Linton,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

The Native American Heritage Commission conducted a Sacred Lands file search. The results were negative. I am writing as part of the cultural inventory process in order find out if you, or your tribal community, have any knowledge of cultural resources or places that may be impacted by the proposed project.

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January 17, 2025 15161.02

Ms. Erica Pinto, Chairperson
Jamul Indian Village
P.O. Box 612
Jamul, CA 91935

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Pinto,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Ms. Lisa Cumper, THPO
Jamul Indian Village
P.O. Box 612
Jamul, CA 91935

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Cumper,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

The Native American Heritage Commission conducted a Sacred Lands file search. The results were negative. I am writing as part of the cultural inventory process in order find out if you, or your tribal community, have any knowledge of cultural resources or places that may be impacted by the proposed project.

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January 17, 2025 15161.02

Ms. Heidi Lucero, Chairperson, THPO
Juaneno Band of Mission Indians Acjachemen Nation
31411-A La Matanza Street
San Juan Capistrano, CA 92675

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Lucero,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Ms. Joyce Perry, Cultural Resource Director
Juaneno Band of Mission Indians Acjachemen Nation
4955 Paseo Segovia
Irvine, CA 92603

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Perry,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Ms. Norma Contreras, Chairperson
La Jolla Band of Mission Indians
22000 Highway 76
Pauma Valley, CA 92061

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Contreras,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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DUDEK
Phone: 619.949.3082
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Attachment: Figure 1. Project Location

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MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Ms. Gwendolyn Parada, Chairperson
La Posta Band of Diegueno Mission Indians
8 Crestwood Rd.
Boulevard, CA 91905

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Parada,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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Keshia Montifolca
Archaeologist
DUDEK
Phone: 619.949.3082
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Attachment: Figure 1. Project Location

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MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Ms. Angela Elliott Santos, Chairperson
Manzanita Band of Kumeyaay Nation
P.O. Box 1302
Boulevard, CA 91905

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Santos,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Mr. Michael Linton, Chairperson
Mesa Grande Band of Dieguneo Mission Indians
P.O. Box 270
Santa Ysabel, CA 92070

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Linton,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Mr. Christopher Nejo, Legal Analyst/Researcher
Pala Band of Mission Indians
PMB 50, 35008 Pala Temecula Road
Pala, CA, 92059

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Nejo,

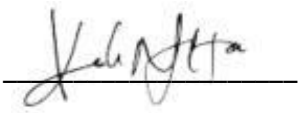
The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Ms. Alexis Wallick, Assistant THPO
Pala Band of Mission Indians
PMB 50, 35008 Pala Temecula Road
Pala, CA 92059

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Wallick,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Ms. Shasta Gaughen, Tribal Historic Preservation Officer
Pala Band of Mission Indians
35008 Pala Temecula Rd.
Pala, CA 92059

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Gaughen,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Mr. Temet Aguilar, Chairperson
Pauma & Yuima Reservation
P.O. Box 369
Pauma Valley, CA 92061

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Aguilar,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Mr. Steve Bodmer, General Counsel for Pechanga Band of Indians
Pechanga Band of Indians
P.O. Box 1477
Temecula, CA 92593

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Bodmer,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources.

If you have any information or concerns pertaining to such information, please contact me.

Respectfully,

Keshia Montifolca
Archaeologist
DUDEK
Phone: 619.949.3082
Email: kmontifolca@dudek.com

Attachment: Figure 1. Project Location

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Ms. Tuba Ebru Ozdil, Cultural Resources Planning Specialist
Pechanga Band of Mission Indians
P.O. Box 2183
Temecula, CA 92593

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Ozdil,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Ms. Denise Turner Walsh, Attorney General
Rincon Band of Mission Indians
One Government Center Lane
Valley Center, CA 92082

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Walsh,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Ms. Cheryl Madrigal, Tribal Historic Preservation Officer
Rincon Band of Mission Indians
One Governement Center Lane
Valley Center, CA 92082

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Madrigal,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Mr. Joseph Linton, Tribal Council/Culture Committee Member
Rincon Band of Mission Indians
One Government Center Lane
Valley Center, CA 92082

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Linton,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Ms. Laurie Gonzalez, Tribal Council/Culture Committee Member
Rincon Band of Mission Indians
One Government Center Lane
Valley Center, CA 92082

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Gonzalez,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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Attachment: Figure 1. Project Location

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T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Ms. Carmen Mojado, Secretary of Goverment Affairs
San Luis Rey Band of Mission Indians
1889 Sunset Drive
Vista, CA, 92083

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Mojado,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Mr. Allen E. Lawson, Chairperson
San Pasqual Band of Diegueno Mission Indians
P.O. Box 365
Valley Center, CA 92082

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Lawson,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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Phone: 619.949.3082
Email: kmontifolca@dudek.com

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ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Mr. John Flores, Environmental Coordinator
San Pasqual Band of Diegueno Mission Indians
P.O. Box 365
Valley Center, CA 92082

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Flores,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Ms. Jessica Valdez, Cultural Resource Specialist
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, CA 92581

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Valdez,

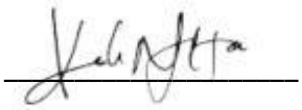
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T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Mr. Joseph Ontiveros, Cultural Resource Department
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, CA 92581

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Ontiveros,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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Respectfully,



Keshia Montifolca
Archaeologist
DUDEK
Phone: 619.949.3082
Email: kmontifolca@dudek.com

Attachment: Figure 1. Project Location

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MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Ms. Bernice Paipa, Cultural Resource Specialist
Sycuan Band of the Kumeyaay Nation
Sycuan Cultural Center:
910 Willow Glen Drive
El Cajon, CA, 92019

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Ms. Paipa,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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Phone: 619.949.3082
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T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Mr. Cody Martinez, Chairperson
Sycuan Band of the Kumeyaay Nation
Sycuan Tribal Office:
1 Kwaaypaay Court
El Cajon, CA 92019

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Martinez,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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T 800.450.1818 F 760.632.0164

January 17, 2025 15161.02

Mr. Ray Teran, Resource Manager
Viejas Band of Kumeyaay Indians
1 Viejas Grade Rd.
Alpine, CA 91901

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Teran,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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January 17, 2025 15161.02

Mr. Ernest Pingleton, THPO
Viejas Band of Kumeyaay Indians
1 Viejas Grade Road
Alpine, CA 91901

Subject: Information Request for the North River Road and Sleeping Indian Road Drainage Improvements Project, City of Oceanside, California

Dear Mr. Pingleton,

The North River Road and Sleeping Indian Road Drainage Improvements Project (project) is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive in the City of Oceanside, California. The project entails drainage improvements at four culverts. The project falls within Section 35 of Township 10 South, Range 4 West on the Moro Hills, California 7.5-minute U.S. Geological Survey Topographic Quadrangle Map (Figure 1).

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Keshia Montifolca
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DUDEK
Phone: 619.949.3082
Email: kmontifolca@dudek.com

Attachment: Figure 1. Project Location

Rincon Band of Luiseño Indians
CULTURAL RESOURCES DEPARTMENT

One Government Center Lane | Valley Center | CA 92082
(760) 749-1092 | Fax: (760) 749-8901 | rincon-nsn.gov

February 3, 2025

Sent via email: kmontifolca@dudek.com

Re: N. River Rd and Sleeping Indian Rd Drainage Improvements, City of Oceanside, California

Dear Ms. Montifolca,

This letter is written on behalf of the Rincon Band of Luiseño Indians ("Rincon Band" or "Tribe"), a federally recognized Indian tribe and sovereign government. We have received your notification regarding the above referenced project and we thank you for the opportunity to consult on the project. The identified location is within the Traditional Use Area of the Luiseño people and within the Tribe's specific Area of Historic Interest (AHI). As such, the Rincon Band is traditionally and culturally affiliated to the project area.

After review of the provided documents and our internal information, the Rincon Band has specific concerns that the project may impact tangible Tribal Cultural Resources. The project site is culturally sensitive, with many resources and known gathering areas. At this time the Rincon Band would like to consult directly with the lead agency, to review any potential impacts in this project site.

If you have additional questions or concerns, please do not hesitate to contact our office at your convenience at (760) 749 1092 ext. 320 or via electronic mail at slinton@rincon-nsn.gov. Thank you for the opportunity to protect and preserve our cultural assets.

Sincerely,

Shuuluk Linton
Tribal Historic Preservation Coordinator
Cultural Resources Department

Bo Mazzetti, Chairman | Joseph Linton, Vice Chair | Laurie E. Gonzalez, Council Member | John Constantino, Council Member | Alfonso Kolb Sr, Council Member

SAN LUIS REY BAND OF MISSION INDIANS

1889 Sunset Drive • Vista, California 92081
760-724-8505 • FAX 760-724-2172
www.slrmissionindians.org

February 19, 2025

Keisha Montifolca
Archaeologist
Dudek

VIA ELECTRONIC MAIL
kmontifolca@dudek.com

RE: SLR RESPONSE REGARDING THE NORTH RIVER ROAD AND SLEEPING INDIAN ROAD DRAINAGE IMPROVEMENTS PROJECT IN THE CITY OF OCEANSIDE AND ITS POTENTIAL IMPACTS TO NATIVE AMERICAN TRIBAL CULTURAL RESOURCES

Dear Ms.Keisha:

We, the San Luis Rey Band of Mission Indians ("Tribe") have received and reviewed your letter dated January 17, 2025 (and inclusive maps) regarding the proposed North River Road and Sleeping Indian Road Drainage Improvements Project in Oceanside, CA ("Project" and "Project Area"). We further understand from your letter that you are inquiring whether the Tribe possesses any information and/or concerns regarding tribal cultural resources and/or Sacred Lands in the Project Area.

We are a northern San Diego County Tribe traditionally and culturally affiliated with Camp Pendleton, the current cities of Oceanside, Carlsbad, Encinitas, Vista, San Marcos and Escondido, as well as many unincorporated areas within northern San Diego County, such as the communities of Fallbrook, Bonsall and Valley Center. We are resolute in the preservation and protection of tribal cultural resources within all these jurisdictions.

Our Tribe has intimate knowledge about the many discoveries made throughout the Project Area and is aware of cultural resource sites within close proximity to the proposed Project. We strongly urge caution in assessing the land encompassing the Project for any ground disturbing purposes, as well as incorporating the presence of a Luiseño Native American monitor during all ground disturbing activities (including but not limited to any and all boring activities) and cultural resource assessment surveys.

In regards to information our Tribe can provide Dudek regarding these tribal cultural resources and sacred sites within the Project Area, we respectfully request that any further discussion be done in person. Please contact our Cultural Resource Manager Cami Mojado at (760) 917-1736 or via email at cjmojado@slrmissionindians.org to arrange a mutually acceptable meeting date and time.

Furthermore, the Tribe requests that any and all cultural resource surveys completed in the Project Area and/or for the benefit of this Project be provided to the Tribe's Cultural Department at 1889 Sunset Drive, Vista, CA 92081 as your earliest convenience. If digital copies are available, please send them directly to cjmojado@slrmissionindians.org. If a cultural resource survey has not been completed as of today's date, then the Tribe respectfully requests that a Luiseño Native American monitor be present during any proposed survey of the Project property.

We appreciate this opportunity to provide information and/or share our concerns regarding this Project. We thank you for your assistance in protecting our invaluable Luiseño tribal cultural resources.

Sincerely,

Cami Mojado
Cultural Resource Specialist
San Luis Rey Band of Mission Indians

Keshia Montifolca

From: Cultural Resource Management <crm@Pauma-nsn.gov>
Sent: Wednesday, March 5, 2025 1:41 PM
To: Keshia Montifolca
Cc: Evelyn Majel
Subject: North River Rd. and Sleeping Indian Rd. Drainage Improvements Project - Pauma Band of Luiseno Mission Indians

Follow Up Flag: Follow up
Flag Status: Completed

Hello Keisha,

I am reaching out to you on behalf of the Pauma Band of Luiseno Mission Indians regarding the project mentioned in the subject line. At this point, Pauma would like to initiate consultation to ensure that we are in communication regarding inadvertent discoveries and any potential impact to cultural landscape and/or resources during the project period.

Thank you for your time and consideration,

Alisha Pico
Pauma Band of Luiseno Indians
Cultural Department
Work: (760)742-1289 ext. 317
Cell: (619)212-2118
CRM@pauma-nsn.gov
1040 Reservation Rd., Pauma Valley, CA 92061