JULY 2024

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS

PUBLIC REVIEW DRAFT INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

PREPARED BY

Michael Baker INTERNATIONAL

PREPARED FOR

COUNTY OF ORANGE CALIFORNIA

PUBLIC REVIEW DRAFT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Modjeska Grade Road, Road and Drainage Improvements (PP 22-0095)

Lead Agency:

COUNTY OF ORANGE
DEPARTMENT OF PUBLIC WORKS
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July 2024

JN 189853

This document is designed for double-sided printing to conserve natural resources.

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1.0 INTRODUCTION

Orange County Public Works (OC Public Works) proposes to provide roadway, drainage, and erosion control improvements along Modjeska Grade Road, located within the eastern portion of unincorporated Orange County, approximately 2.2 miles north of State Route 241 (SR-241), in Modjeska Canyon. The Modjeska Grade Road, Road and Drainage Improvements (herein referenced as the "Project") encompasses a 1.3-mile segment of Modjeska Grade Road from 100 feet south of the Markuson Road/Modjeska Canyon Road intersection to the East Santiago Canyon Road (also referred to as County Road S18)/Modjeska Grade Road intersection. Roadway improvements would generally include pavement rehabilitation, paved shoulders, the installation of a retaining wall and storm drain system, and upgrading guardrails.; refer to Section 2.0, *Project Description*. Following a preliminary review of the proposed Project, the County of Orange (County) has determined that the Project is subject to the guidelines and regulations of the California Environmental Quality Act (CEQA). This Initial Study/Mitigated Negative Declaration addresses the direct, indirect, and cumulative environmental effects of the Project, as proposed.

1.1 Statutory Authority and Requirements

In accordance with CEQA (Public Resources Code Section 21000-21177) and pursuant to California Code of Regulations Section 15063, the County, acting in the capacity of Lead Agency under CEQA, is required to undertake the preparation of an Initial Study to determine if the proposed Project would have a significant environmental impact. If, as a result of the Initial Study, the Lead Agency finds that there is evidence that any aspect of the Project may cause a significant environmental effect, the Lead Agency shall further find that an Environmental Impact Report (EIR) is warranted to analyze Project-related and cumulative environmental impacts. Alternatively, if the Lead Agency finds that there is no evidence that the Project, either as proposed or as modified to include the mitigation measures identified in the Initial Study, may cause a significant effect on the environment, the Lead Agency shall find that the proposed Project would not have a significant effect on the environment and shall prepare a Negative Declaration or Mitigated Negative Declaration, respectively, for the Project. Such determination can be made only if "there is no substantial evidence in light of the whole record before the Lead Agency" that such impacts may occur (Public Resources Code Section 21080(c)).

The environmental documentation, which is ultimately selected by the County in accordance with CEQA, is intended as an informational document undertaken to provide an environmental basis for subsequent discretionary actions upon the Project. The resulting documentation is not, however, a policy document and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits and/or other discretionary approvals would be required.

The environmental documentation is subject to a public review period. During this review, public agency comments on the document relative to environmental issues should be addressed to the County. Following review of any comments received, the County will consider these comments as a part of the Project's environmental review and include them with the Initial Study documentation for consideration by the County.

1.2 Purpose

Section 15063(d) of the CEQA Guidelines identifies specific disclosure requirements for inclusion in an Initial Study. Pursuant to those requirements, an Initial Study shall include:

- A description of the Project, including the location of the Project;
- Identification of the environmental setting;
- Identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
- Discussion of ways to mitigate significant effects identified, if any;
- Examination of whether the Project is compatible with existing zoning, plans, and other applicable land use controls; and
- The name(s) of the person(s) who prepared or participated in the preparation of the Initial Study.

Section 15071 of the CEQA Guidelines identifies the required contents for a negative declaration/mitigated negative declaration, which includes the following:

a) A brief description of the Project, including a commonly used name for the Project, if any;
b) The location of the Project, preferably shown on a map, and the name of the Project proponent;
c) A proposed finding that the Project will not have a significant effect on the environment;
d) An attached copy of the Initial Study documenting reasons to support the finding; and
e) Mitigation measures, if any, included in the Project to avoid potentially significant effects.

1.3 Consultation

As soon as a Lead Agency (in this case, the County) has determined that an Initial Study would be required for the Project, the Lead Agency is directed to consult informally with all Responsible Agencies and Trustee Agencies that are responsible for resources affected by the Project, to obtain the recommendations of those agencies as to whether an EIR or Negative Declaration should be prepared for the Project. Following receipt of any written comments from those agencies, the Lead Agency considers any recommendations of those agencies in the formulation of the preliminary findings. Following completion of this Initial Study, the Lead Agency will initiate formal consultation with these, and other governmental agencies as required under CEQA and its implementing guidelines.

1.4 Incorporation By Reference

The following documents were utilized during the preparation of this Initial Study and are incorporated into this document by reference. These documents are available for review at the County of Orange Development Services Department, located at 601 North Ross Street, Santa Ana, California 92703 and City of Lake Forest Planning Department, located at 100 Civic Center Drive, Lake Forest, California 92630.

- *County of Orange General Plan (adopted 2005 and updated September 2022)*. The *County of Orange General Plan* (Orange County General Plan), dated 2005 and updated September 2022, is a policy document that provides broad guidelines for development in the County. The Orange County General Plan includes the following nine elements: Land Use; Transportation; Public Services & Facilities; Resources; Recreation; Noise; Safety; Housing; and Growth Management.

- *County of Orange Foothill/Trabuco Specific Plan (December 1991)*. The *County of Orange Foothill/Trabuco Specific Plan*, adopted December 1991, is a policy document that provides development and design guidelines to achieve its broad goals and objectives for development within the specific plan area. The *County of Orange Foothill/Trabuco Specific Plan* includes the following specific plan components: land use; circulation; resources overlay; public facilities; recreation; and phasing.

- *County of Orange Silverado-Modjeska Specific Plan (August 21, 1977)*. The *County of Orange Silverado-Modjeska Specific Plan*, dated August 21, 1977, is a policy document that provides general development guidelines for residential and recreational development in the specific plan area. The *County of Orange Silverado-Modjeska Specific Plan* includes the following components: conservation; safety; open space; circulation; scenic highway; noise; and housing.

- *County of Orange Code of Ordinances (codified through Ordinance No. 23-005, enacted December 5, 2023)*. The County of Orange Code of Ordinance (County Code of Ordinances) consists of codes and ordinances adopted by the County. These include standards intended to regulate land use, development, public facilities, highways, bridges, rights-of-way, vehicles, water quality, and health and sanitation. Article 2, *The Comprehensive Zoning Code* (Zoning Ordinance) of the County Code of Ordinances, includes an official land-use plan for the City adopted and established to serve the public health, safety, comfort, convenience, and general welfare by dividing the City into zones and establishing land use districts for public and private use and general provisions and standards of development with the aim of preserving a serviceable community.

- *City of Lake Forest General Plan (June 2020)*. The *City of Lake Forest General Plan* (Lake Forest General Plan), dated June 2020, is a policy document that provides broad guidelines for development in the City with the intention of identifying land use, growth, transportation, environmental, economic, and social goals and policies as they relate to land use, conservation, development, and provision of community services and facilities. The Lake Forest General Plan includes the following eight elements: Land Use and Design, Mobility, Economic Development, Recreation and Resources, Public Safety, Public Facilities, Health and Wellness, and Housing.

- *Draft Environmental Impact Report-2040 Lake Forest General Plan (November 2019)*. The *Draft Environmental Impact Report-2040 Lake Forest General Plan* (Lake Forest General Plan EIR) adopted November 2019, is a program level analysis that addresses potential impacts of activities associated with implementation of the General Plan Update. Specifically, the General Plan EIR analyzes environmental topical areas related to: aesthetics; agricultural resources; air quality; biological resources; cultural and tribal cultural resources; geology and soils; greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use, mineral resources, noise, public services, recreation, transportation and traffic, wildfire, and utilities and service systems. According to the General Plan EIR, implementation of the General Plan would result in significant and unavoidable impacts related to agricultural and forest resources, air quality, and hazards and hazardous materials.

- *City of Lake Forest Municipal Code (codified through Ordinance 364 and the September 2023 code supplement)*. The *City of Lake Forest Municipal Code* (Lake Forest Municipal Code) consists of codes and ordinances adopted by the City. These include standards

intended to regulate land use, development, health and sanitation, peace and safety, vehicles and traffic, water and sewers, and parks and recreational facilities. Title 9, *Planning and Zoning* (Zoning Ordinance) of the Lake Forest Municipal Code, includes an official land-use plan for the City adopted and established to serve the public health, safety, comfort, convenience, and general welfare by dividing the City into zones and establishing land use districts for public and private use and general provisions and standards of development with the aim of preserving a serviceable community.

2.0 PROJECT DESCRIPTION

2.1 Overview

The purpose of Section 2.0, *Project Description*, is to describe the characteristics of the proposed Project, Project site, and surrounding vicinity. This chapter describes the proposed Project's location, background, purpose and intent, components, construction, maintenance, and required permits and approvals needed to implement the proposed Project.

2.2 Project Location

The proposed Project is located within the eastern portion of unincorporated Orange County, California in Modjeska Canyon, approximately 2.2 miles north of State Route 241 (SR-241); refer to Exhibit 2-1, *Regional Vicinity*. Modjeska Canyon is situated within the greater Santa Ana Mountains. Specifically, the Project limits extend along a 1.3-mile segment of Modjeska Grade Road from 100 feet south of the Markuson Road/Modjeska Canyon Road intersection to the East Santiago Canyon Road (also referred to as County Road S18)/Modjeska Grade Road intersection; refer to Exhibit 2-2, *Site Vicinity*.

2.3 Environmental Setting

Modjeska Grade Road is an approximately 1.3-mile-long two-lane, rural highway connecting southern Orange County with Modjeska Canyon Road, via East Santiago Canyon Road. Modjeska Grade Road provides access to Modjeska Canyon residents and recreational visitors to the Project area. The existing roadway geometric alignment consists of sharp, switchback curves with narrow, 8- to 10-foot wide travel lane widths. Roadway shoulders are generally 1 foot wide with portions ranging up to approximately 7 feet wide. Refer to Exhibit 2-3, *Site Photos*, which provides representative photos of existing site conditions.

The topography of the Project site is mountainous with a maximum grade of 16 percent and a 375-foot elevation change from high point to low point. The topographic high point is near the middle of the Project site, where Oriole Street and Santiago Truck Trail meet. The topographic low points are at the southern and northern ends of the Project site, near the Modjeska Grade Road and East Santiago Canyon Road intersection and the Modjeska Grade Road and Shadowland Circle intersection, respectively. Offsite drainage enters the Project site from uphill slopes. Existing asphalt drainage ditches, inlets, culverts, and pipe slope drains along with the roadway capture and convey storm flows and surface runoff into natural drainages. The northern end of the Project site drains into Santiago Creek which ultimately drains into Irvine Lake. Irvine Lake discharges to Santiago Creek which flows to the Santa Ana River and ultimately the Pacific Ocean south of Huntington State Beach. The southern end of the Project site drains into the Aliso Creek ultimately discharging to the Pacific Ocean north of Aliso Beach.

Surrounding Land Uses

The Project site and adjacent land to the north, west, and east are located within unincorporated Orange County. Surrounding uses to the south are situated in the City of Lake Forest; refer to Exhibit 2-2.

The Project site is generally surrounded by residential, agricultural, and open space uses. The surrounding land uses, as designated by the *County of Orange General Plan* (Orange County

General Plan), *Land Use Element Map*, dated August 23, 2015, *County of Orange Code of Ordinances* (codified through Ordinance No. 23-005) (County Code of Ordinances), *City of Lake Forest General Plan* (Lake Forest General Plan), *Land Use Map*, dated May 3, 2016, and City of Lake Forest Zoning Code (codified through Ordinance 364 and the September 2023 code supplement) are described in Table 2-1, *Surrounding Land Uses*.

Table 2-1: Surrounding Land Uses

Direction	Land Use(s)	Zoning
Unincorporated Orange County		
North	Rural Residential (1A) and Suburban Residential (1B)	General Agricultural with a Sign Restriction Combining District (A1 [SR]), Silverado-Modjeska Specific Plan District, and Estates with a Sign Restriction Combining District (E1 [SR])
East	Rural Residential (1A)	Residential Hillside Estates with a Sign Restriction Combining District (RHE [SR]), General Agricultural with a Sign Restriction Combining District (A1 [SR]), Silverado-Modjeska Specific Plan District, and Foothill/ Trabuco Specific Plan Combining District (S)
West	Rural Residential (1A)	General Agricultural with a Sign Restriction Combining District (A1 [SR]), Silverado-Modjeska Specific Plan District, and Foothill/ Trabuco Specific Plan Combining District (S)
City of Lake Forest		
South	Regional Park/Open Space (Whiting Ranch Wilderness Park)	Open Space Conservation District (OS)

Sources: County of Orange General Plan, *Land Use Element Map*, March 2015.
OC Public Works, *Land Use Records*, https://www.ocgis.com/ocpw/landrecords/, accessed April 25, 2024.
County of Orange, *Silverado-Modjeska Specific Plan Land Use*, February 1, 1984, https://ocds.ocpublicworks.com/sites/ocpwocds/files/import/data/files/9016.pdf, accessed June 19, 2024.
City of Lake Forest General Plan, Figure LU-1, *Land Use Map*, Updated March 3, 2016.
City of Lake Forest, *Zoning Map*, https://lakeforestca.maps.arcgis.com/apps/webappviewer/index.html?id=e41ab4d5be98473db858a27a458ea509, accessed March 27, 2022.

2.4 Project Background

Modjeska Grade Road is an OC Public Works maintained County Highway. This road has a long history of extensive maintenance needs during storm seasons that have been validated by technical studies prepared for the Project that have identified drainage and erosion deficiencies along Modjeska Grade Road within the Project limits.[1]

[1] Avila and Associates Consulting Engineers, Inc., *Proposed Condition Preliminary Hydrology and Hydraulic Report* (Hydrology and Hydraulic Report), September 30, 2021.

Due to the existing mountainous terrain and existing soil conditions on-site, the Project site and surrounding properties experience soil erosion, roadway washouts, and localized stormwater flooding during large storm events. Soil and debris, some from adjacent slopes and a majority collected by concentrated flows along unpaved shoulders on Modjeska Grade Road, cause inlets and ditches to become clogged with sediment, which reduces drainage capacity and prevents proper drainage. Erosion caused by concentrated flows along unpaved shoulders at the tops of downslopes also lead to roadway washouts. These issues can lead to roadway closures and detours. Storm preparation measures and post-storm clean-up maintenance activities are excessive and critical to prepare this area for the next storm that passes through.

OC Public Works proposes the Project to provide roadway, drainage, and erosion control improvements on-site. These improvements would result in safety enhancements for residents and travelers along Modjeska Grade Road, in addition to surrounding uses along the corridor. Further, the proposed Project would minimize long-term operational maintenance activities and reduce temporary and emergency maintenance needs within the Project area.

2.5 Project Characteristics

The proposed Project characteristics, including roadway, drainage, and erosion control improvements, are described below.

Roadway Improvements

Roadway improvements would generally include pavement rehabilitation, a paved shoulder (northbound shoulder from Santiago Truck Trail to East Santiago Canyon Road), construction of a retaining wall, and replacing and installing guardrails. Refer to Exhibit 2-4, *Conceptual Site Plan Key Map*, and associated Exhibits 2-4a through 2-4t, *Plan Sheets*, and Exhibits 2-5a, through 2-5d, *Typical Roadway Cross Sections*. The existing pavement would be rehabilitated by removing and replacing the existing structural section for the entire length of the Project. Similar to existing conditions, the travel lanes would be 10 feet wide, except for a segment from the Shadowland Circle and Modjeska Grade Road intersection to approximately 680 feet south, where the travel lanes would be 8 feet wide. Paved shoulders would be one-foot wide, at a minimum. In the segment from the Shadowland Circle and Modjeska Grade Road intersection to approximately 500 feet south, paved shoulders would match or exceed existing widths of up to approximately one foot where necessary to avoid impacts to private properties, utilities, and existing trees. Roadway re-pavement would include a five- to seven-foot-wide paved northbound shoulder from the East Santiago Canyon Road to Santiago Truck Trail. The Project would construct one retaining wall along northbound Modjeska Grade Road near its intersection with Canyon Heights Drive; refer to Exhibits 2-4m and 2-4n. The retaining wall would be a soldier pile wall with timber lagging, with a height of approximately 12 feet and length of approximately 320 feet. Guardrail would be installed and upgraded at approximately seven locations within the Project limits.

For the purposes of improving the existing drainage system, the proposed Project would reconstruct portions of up to 12 residential driveways. Partial temporary daytime lane closures would be used during the construction phase of two Project segments where there are residential driveways. Full lane extended duration closures would be used for three segments of the project where there are no residential driveways or where the residents have alternative access. Full lane daytime only closures may be used in isolated locations for construction of underground improvements. The County would continue to coordinate with property owners and provide

notification of temporary driveway and street access restrictions and detours prior to and during the construction phase of the Project.

Drainage Improvements

The Project proposes to improve the existing storm drainage system along Modjeska Grade Road to reduce drainage deficiencies. To channelize storm flows and reduce the potential for erosion, the proposed Project would construct concrete-lined v-ditches and asphalt concrete dikes along the roadway edges. Additional improvements would include replacing or upsizing the existing storm-drain pipes and installing new inlets and underground storm drain pipes within Project limits to adequately capture and convey on-site stormwater flows. Energy dissipation measures would be installed at the system outlets to minimize erosion, turbulence, and turbidity since the Project discharges indirectly to the Santiago Creek and Aliso Creek, which are not engineered or hardened and are susceptible to hydromodification. Channel protection such as rip rap would be included where necessary to protect the ditch bottom and banks of an existing unlined manmade drainage ditch adjacent to Modjeska Canyon Road between Shadowland Circle and Santiago Creek, where two storm drain systems drain into the upstream end of the ditch. Refer to Exhibit 2-6, *Conceptual Drainage Plan Key Map*, and associated Exhibits 2-6a through 2-6j, *Plan Sheets*.

Erosion Control

The soil erosion of side slopes that drain on-site would be reduced by installing erosion control measures such as hydroseeding (containing only locally prevalent native plant species), open weave textile, and hydraulic biotic growth medium. Erosion along the unpaved roadway edges, which lead to sediment collection, inlet clogging, and slope stability issues at the tops of slopes, would be reduced by paving roadway shoulders and constructing concrete-lined ditches and asphalt dikes that would convey channelized surface flows. Erosion would be minimized at the point of discharge through measures to dissipate velocities, including tee dissipators and live fascines. Refer to Exhibit 2-7, *Conceptual Drainage Plan Key Map*, and associated Exhibits 2-7a through 2-7j, *Plan Sheets*.

Dry and Wet Utilities

The Project site includes both overhead and underground utilities, including overhead electric and telecommunication lines and power poles, and underground power, communication, and water lines. Various at-grade utility appurtenances, such as water valve caps, water meters, backflow preventers, pull box lids, telephone pedestals, and electric pull boxes would be adjusted to grade. Construction of the proposed underground storm drain systems would require relocation of water, electrical, and communication underground lines. All other utilities would be protected in place.

2.6 Project Construction and Phasing

Construction of the Project would commence in summer 2025 and continue for approximately 12 months, ending in summer 2026, and would occur in five phases; refer to Exhibit 2-8, *Conceptual Construction Phasing and Detour*. The first phase of construction would have a duration of approximately two to four months and would include a full closure of Modjeska Grade Road from Santiago Canyon Road to approximately 2,500 feet north, at Oriole Street/Santiago Truck Trail. The second phase of construction would have a duration of approximately one to three months and would include full closure of Modjeska Grade Road from Oriole Street/Santiago Truck Trail

to approximately 1,300 feet north. One residential driveway would be closed within this segment; the property owner has a second driveway that would remain open, and the County has coordinated with the owner for approval to close one of the driveways. The third phase of construction would have a duration of approximately three to seven months and would include daytime only single lane closures of Modjeska Grade Road from approximately 1,200 feet north of Santiago Truck Trail to approximately 1,200 feet north, at Canyon Heights Drive. One travel lane would remain open for flagger-controlled traffic use during construction activities, and both travel lanes would be traversable and accessible at the end of each work day. The fourth phase of construction would have a duration of approximately one to three months and would include full closure of Modjeska Grade Road from Canyon Heights Drive to approximately 1,350 feet north. The fifth phase of construction would have a duration of approximately two to four months and would include daytime only single lane closures of Modjeska Grade Road from approximately 1,350 feet north of Canyon Heights Drive to the northerly project limit, similar to the third phase. Construction of some underground improvements within the third and fifth phases may require isolated daytime only full lane closures of Modjeska Grade Road. Such closures would be coordinated with the County, and both travel lanes would be traversable and accessible at the end of each work day. Construction activities are anticipated to occur between 7:00 a.m. and 5:00 p.m. on weekdays. Earthwork activities would include approximately 500 cubic yards of cut and 1,300 cubic yards of fill, approximately 900 cubic yards of soil import and 100 cubic yards of soil export. Vegetation removal is anticipated on-site; however, trees would be preserved; refer to Section 4.4, *Biological Resources*. As mentioned above in Section 2.5, *Project Characteristics*, construction activities would require single lane temporary lane closures and extended full lane closures along Modjeska Grade Road. As such, the Project would implement a construction traffic management plan (TMP); refer to Section 4.9, *Hazards and Hazardous Materials*. The TMP may include potential measures such as construction signage, limitations on timing for lane closures to avoid peak hours, temporary striping plans, and a construction flag person to direct traffic during heavy equipment use, among others.

2.7 Permits and Approvals

The County and other applicable agency approvals required for Project implementation may include, but are not limited to, the following:

County of Orange

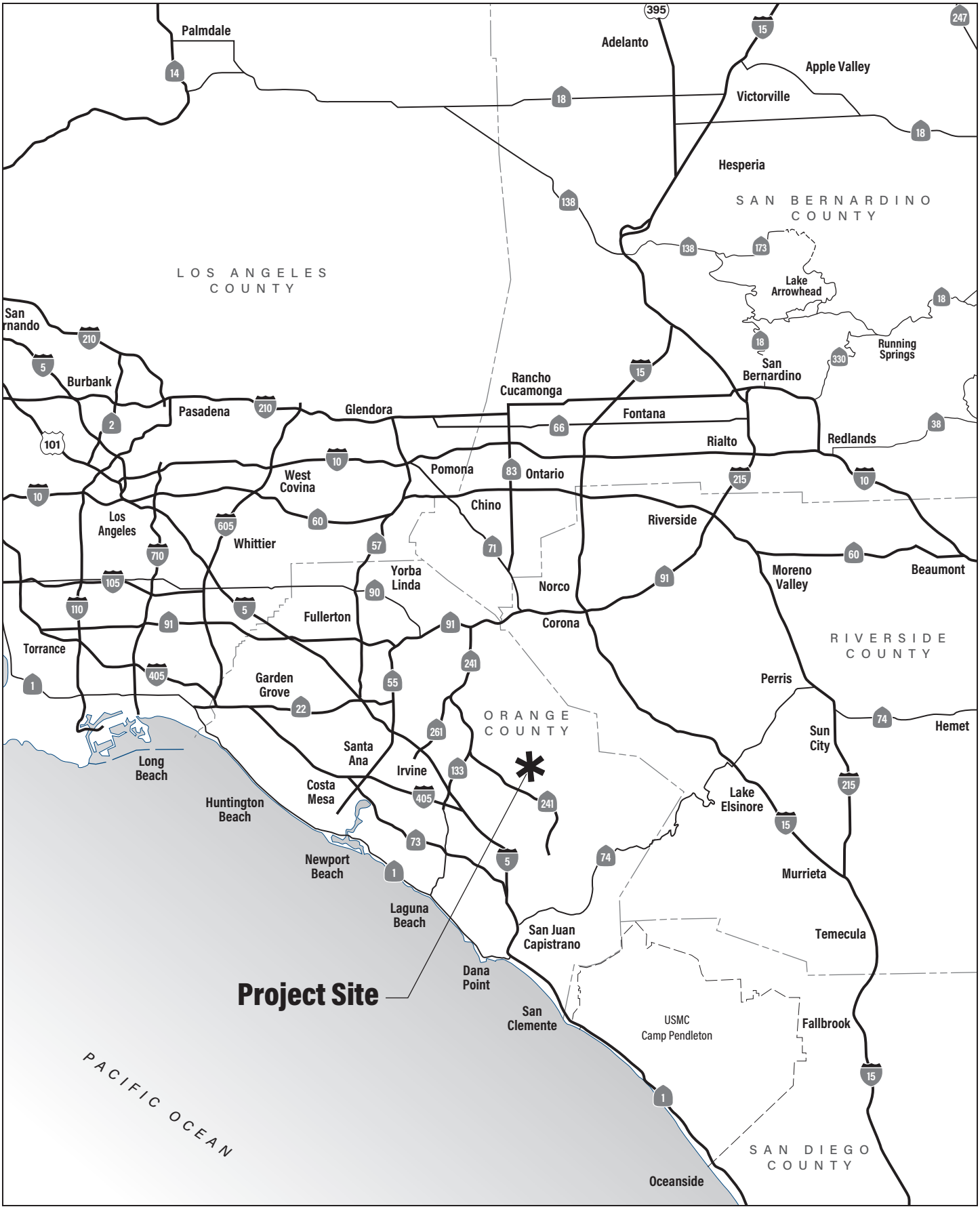
- Adoption of the California Environmental Quality Act (CEQA) Final Initial Study with Mitigated Negative Declaration (IS/MND)
- Temporary Construction Easements
- Application for Permanent Easements from private properties; refer to Exhibit 2-9, *Proposed Easement Acquisition Areas*

California Department and Fish and Wildlife

- Section 1602 Lake or Streambed Alteration Agreement

Santa Ana Regional Water Quality Control Board

- NPDES Construction General Permit
- Section 401 Water Quality Certification



MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Regional Vicinity

Michael Baker INTERNATIONAL

NOT TO SCALE

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Exhibit 2-1

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NOT TO SCALE

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MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Site Vicinity

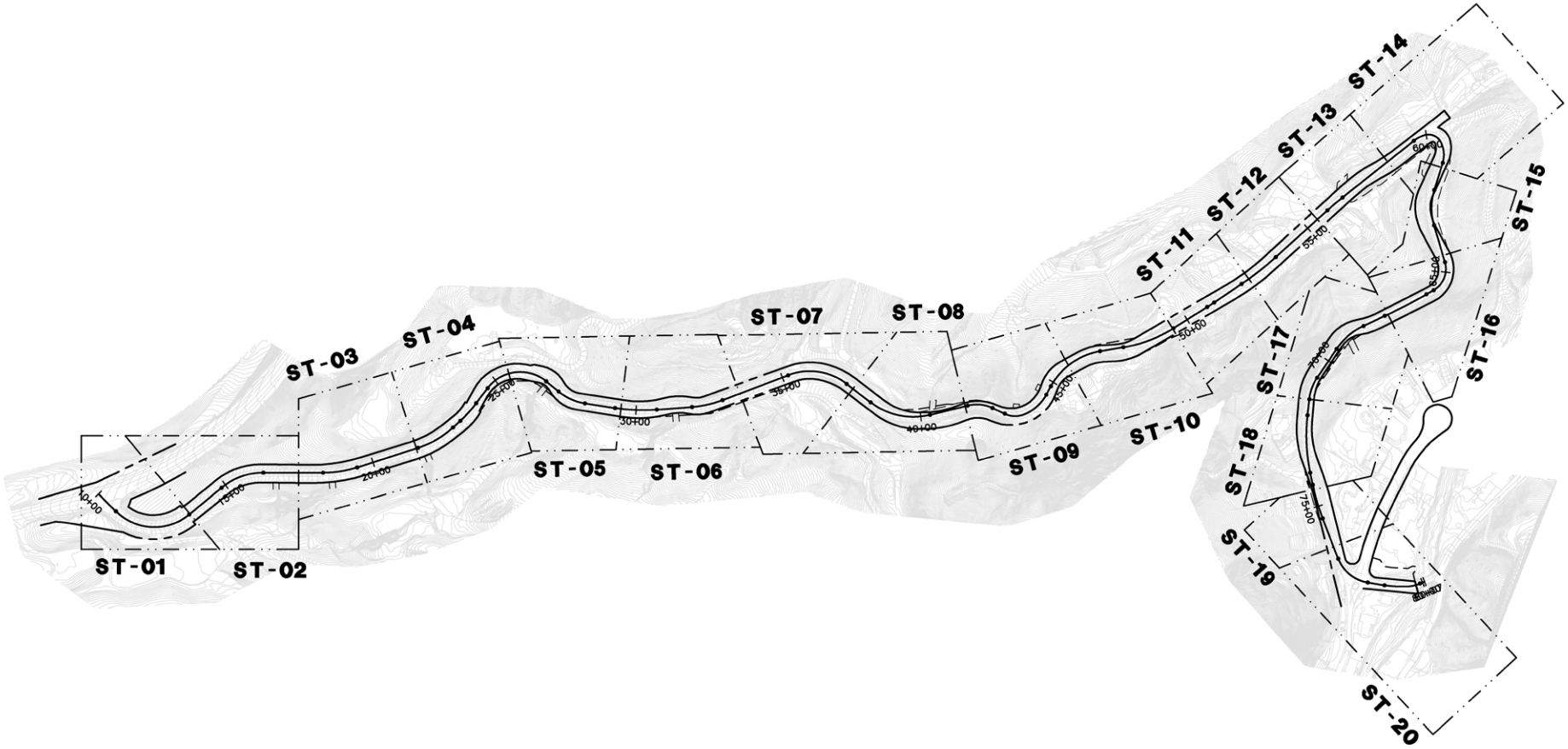
Exhibit 2-2

Looking south along the northbound shoulder of Modjeska Grade Road, approximately 875 feet north of the East Santiago Canyon Road and Modjeska Grade Road intersection.

Looking northwest along the southbound shoulder of Modjeska Grade Road, approximately 300 feet south of the Canyon Heights Drive and Modjeska Grade Road intersection.

Looking northeast along the northbound shoulder of Modjeska Grade Road, approximately 100 feet north of the Canyon Heights Drive and Modjeska Grade Road intersection.

Looking northeast along southbound Modjeska Grade Road, approximately 300 feet south of the Modjeska Canyon Road, Shadowland Circle, and Modjeska Grade Road intersection.



Source: Mark Thomas, December 2023

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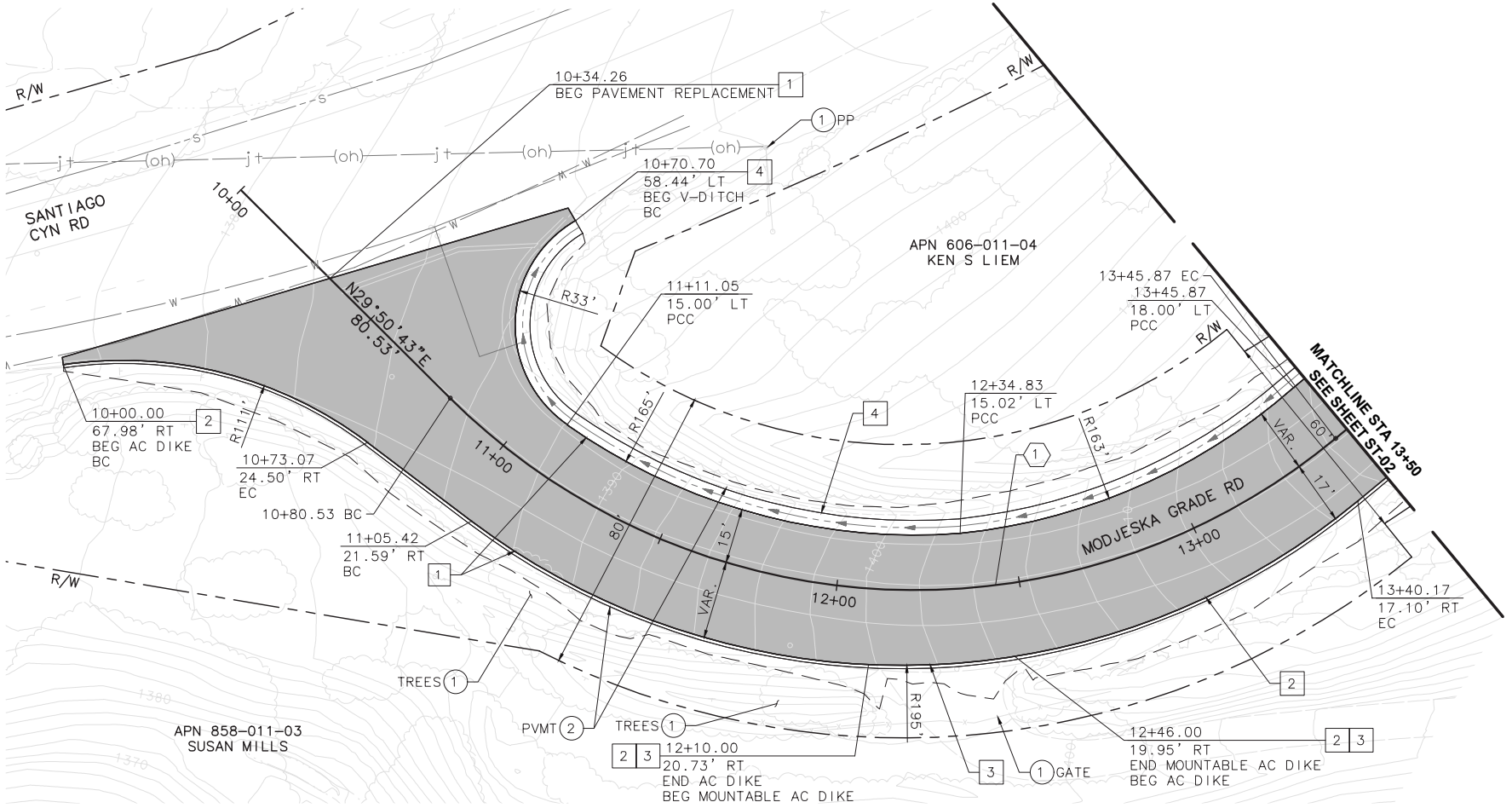
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Conceptual Site Plan Key Map

Exhibit 2-4



PLAN
1" = 20'
0 5 10 15 20 30 40 60 80

SHEET
ST-01

CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
3. CONSTRUCT MOUNTABLE AC DIKE (TYPE D) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V-DITCH, 4' WIDE

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

Source: Mark Thomas, December 2023

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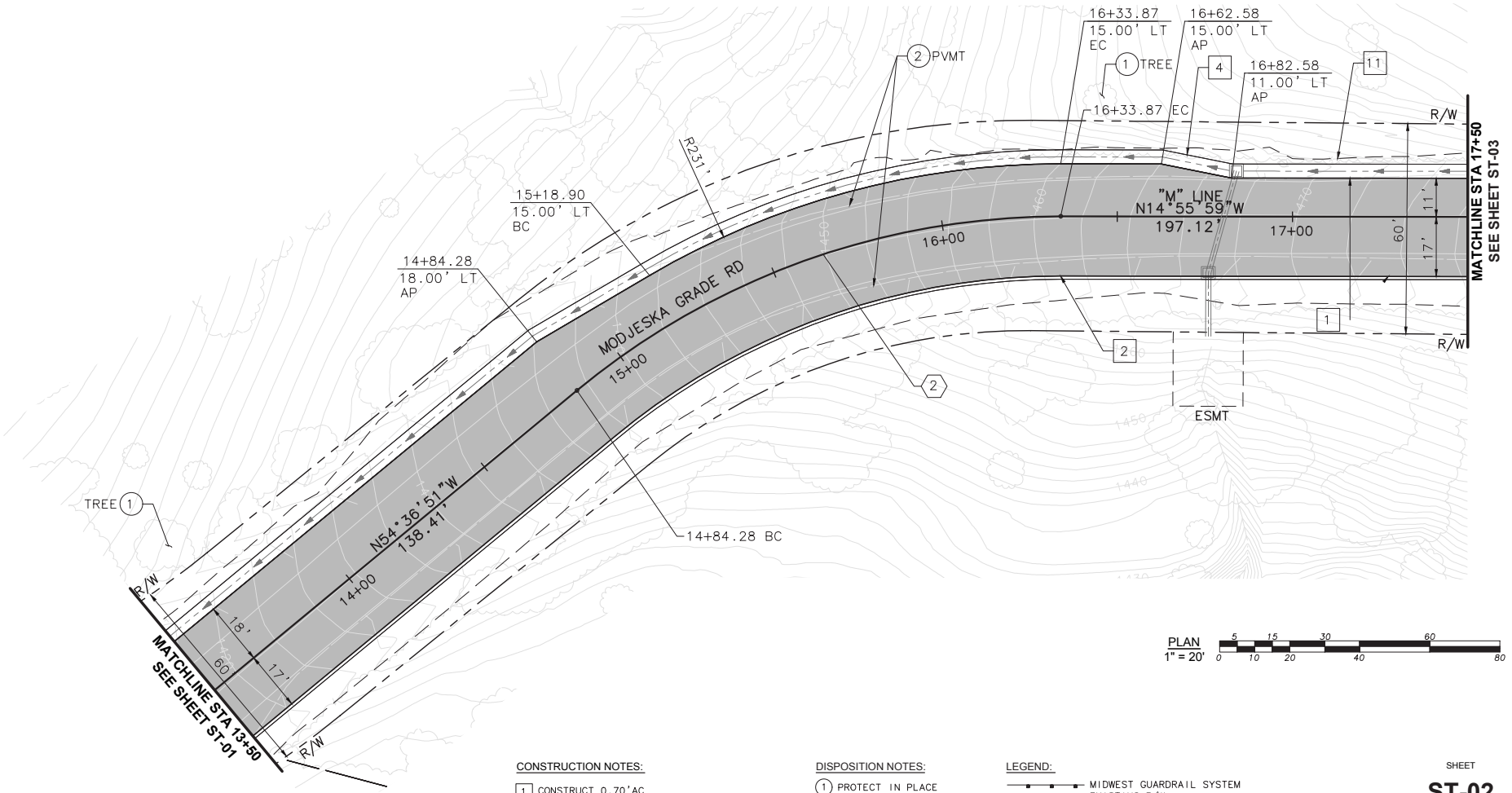
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 1

Exhibit 2-4a



CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V-DITCH, 4' WIDE
11. REMOVE AND RECONSTRUCT EROSION FENCE

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

SHEET

ST-02

Source: Mark Thomas, December 2023

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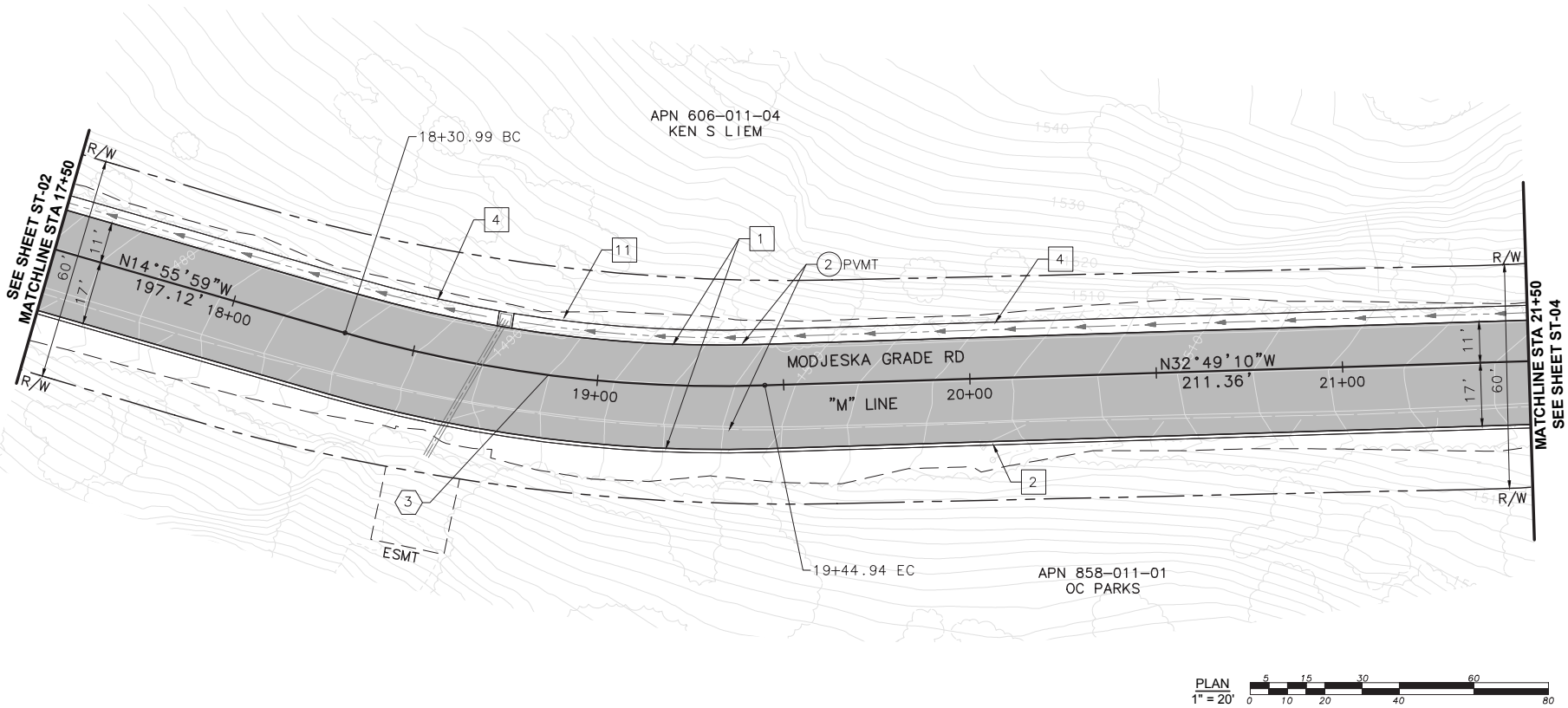
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 2

Exhibit 2-4b



PLAN
1" = 20'

5 15 30 60
0 10 20 40 80

CONSTRUCTION NOTES:

1 CONSTRUCT 0.70'AC
2 CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
4 CONSTRUCT CONCRETE V–DITCH, 4' WIDE
11 REMOVE AND RECONSTRUCT EROSION FENCE

DISPOSITION NOTES:

(1) PROTECT IN PLACE
(2) REMOVE, PER PLAN

LEGEND:

MIDWEST GUARDRAIL SYSTEM
EXISTING R/W
EASEMENT
TEMPORARY CONSTRUCTION EASEMENT
RETAINING WALL
CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

ALIGNMENT CURVE TABLE

CURVE #	RADIUS	DELTA	TANGENT	LENGTH
(3)	365.00'	17°53'11"	57.44'	113.94'

SHEET
ST-03

Source: Mark Thomas, December 2023

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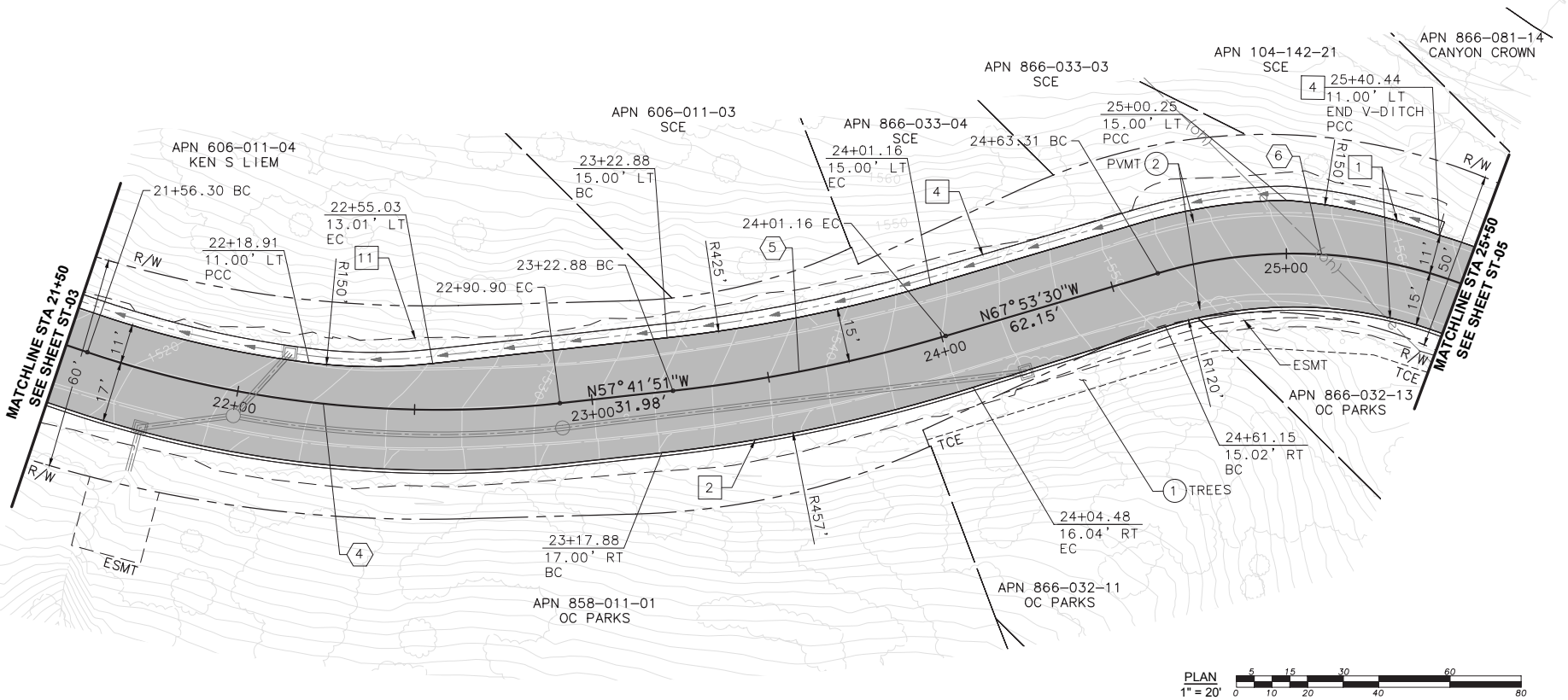
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 3

Exhibit 2-4c



PLAN
1" = 20'

0 10 20 40 80

5 15 30 60

SHEET
ST-04

CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V-DITCH, 4' WIDE
11. REMOVE AND RECONSTRUCT EROSION FENCE

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

Source: Mark Thomas, December 2023

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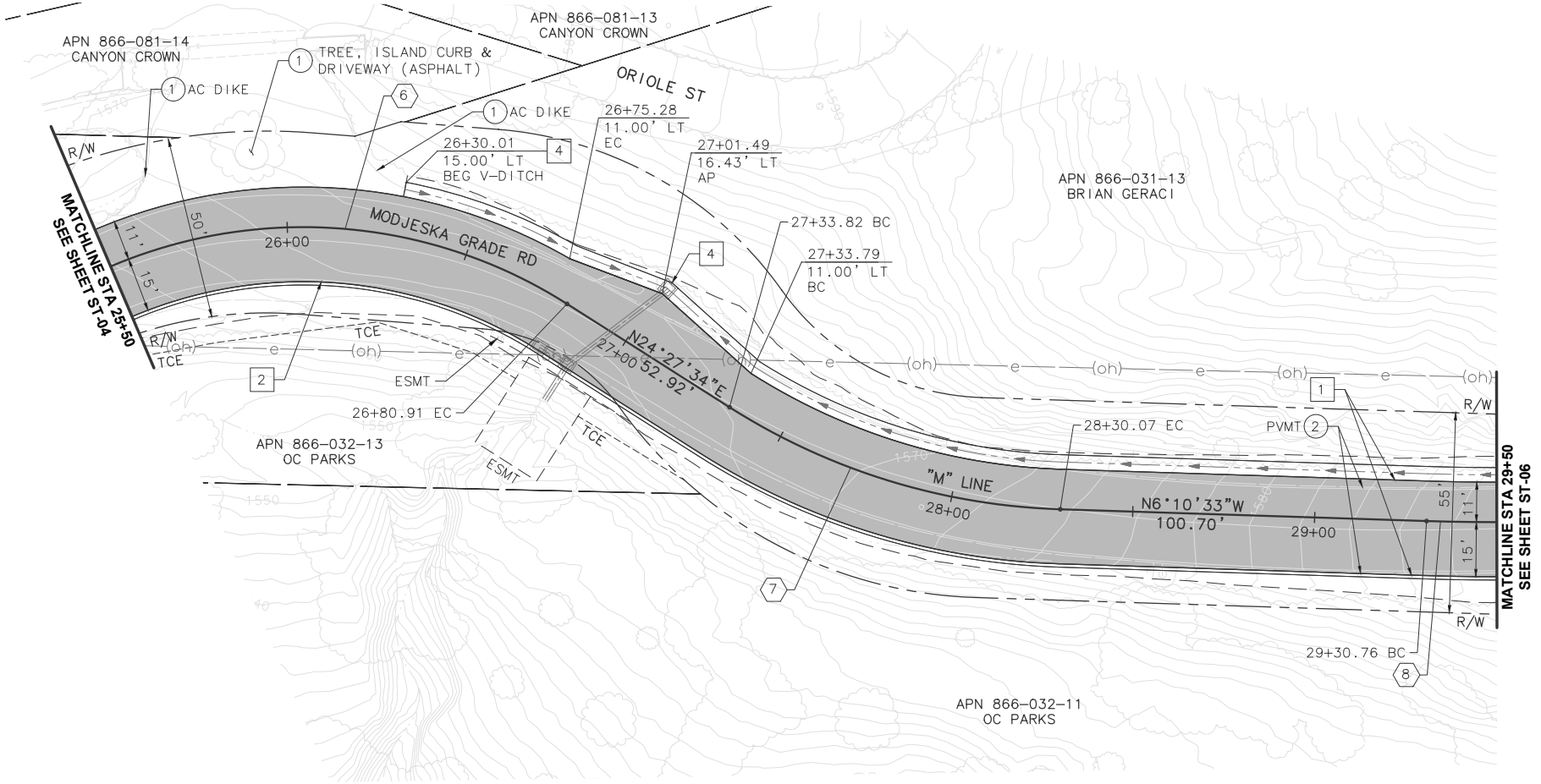
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 4

Exhibit 2-4d



CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V-DITCH, 4' WIDE

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

PLAN
1" = 20'

0 10 20 40 80

SHEET
ST-05

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 5

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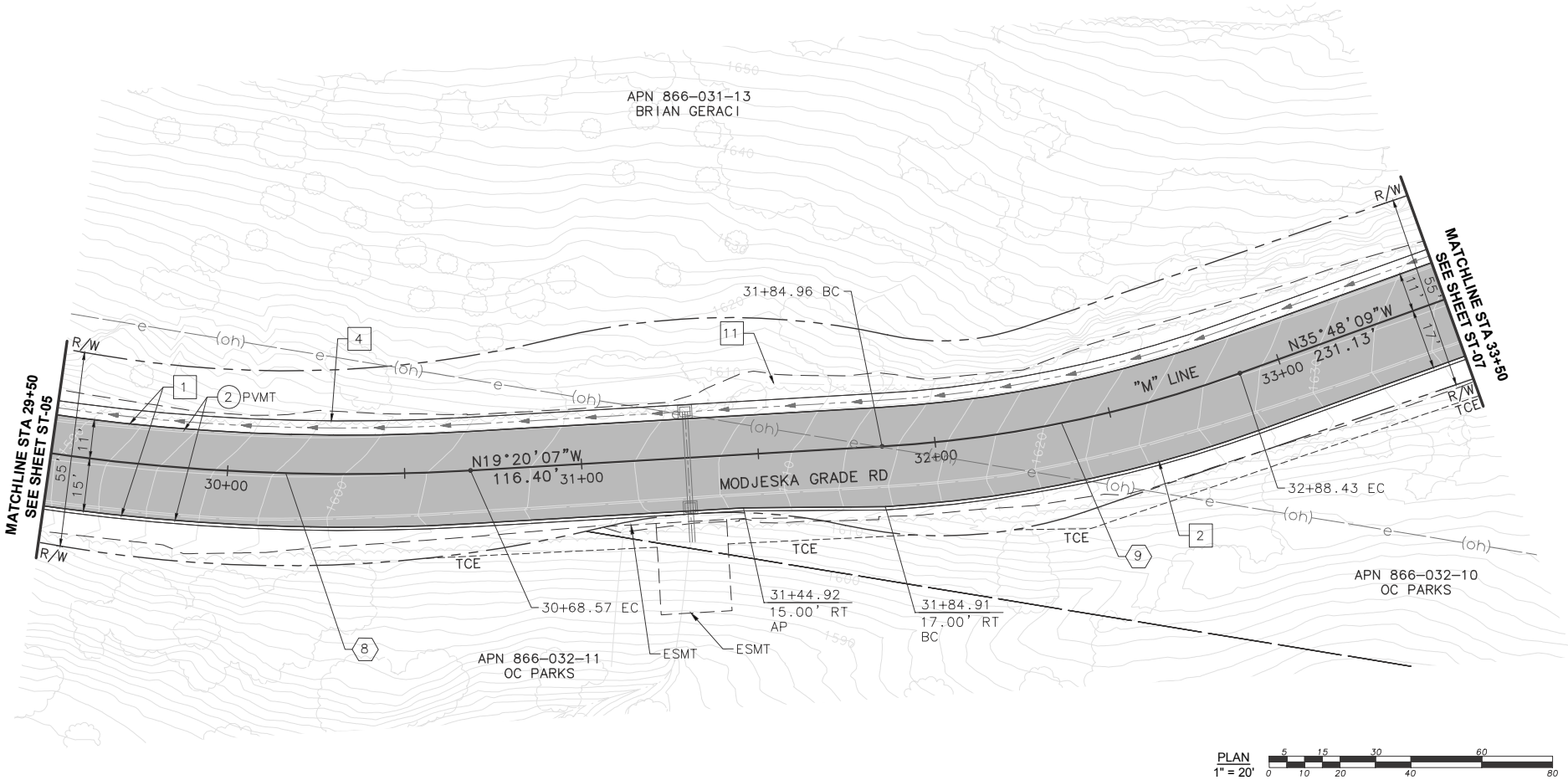
Exhibit 2-4e



PLAN
1" = 20'

5 15 30 60
0 10 20 40 80

CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V–DITCH, 4' WIDE
11. REMOVE AND RECONSTRUCT EROSION FENCE

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

SHEET
ST-06

Source: Mark Thomas, December 2023

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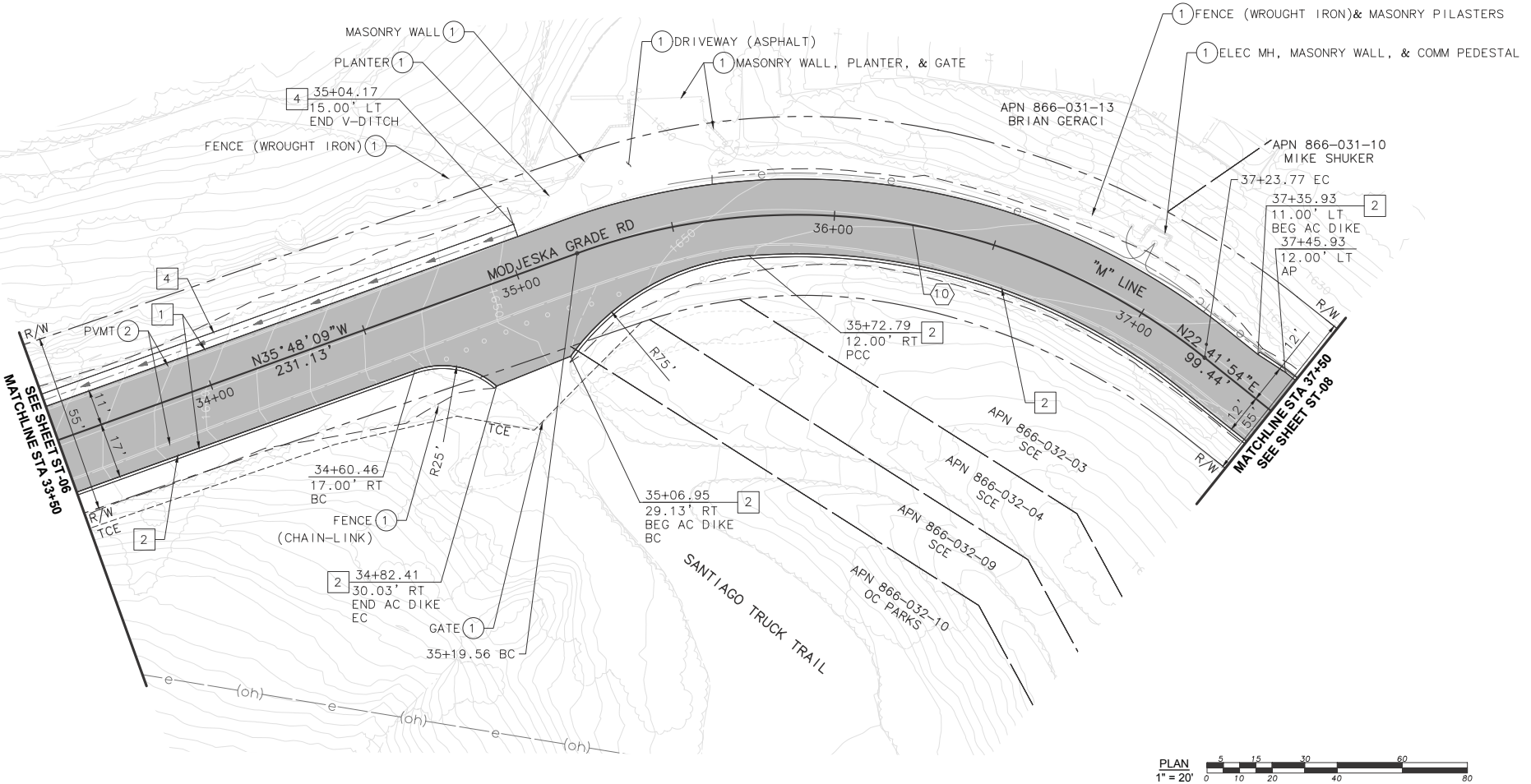
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 6

Exhibit 2-4f



CONSTRUCTION NOTES:

1 CONSTRUCT 0.70'AC

2 CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B

4 CONSTRUCT CONCRETE V-DITCH, 4' WIDE

DISPOSITION NOTES:

1 PROTECT IN PLACE

2 REMOVE, PER PLAN

LEGEND:

MIDWEST GUARDRAIL SYSTEM
EXISTING R/W
EASEMENT
TEMPORARY CONSTRUCTION EASEMENT
RETAINING WALL
CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

SHEET
ST-07

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 7

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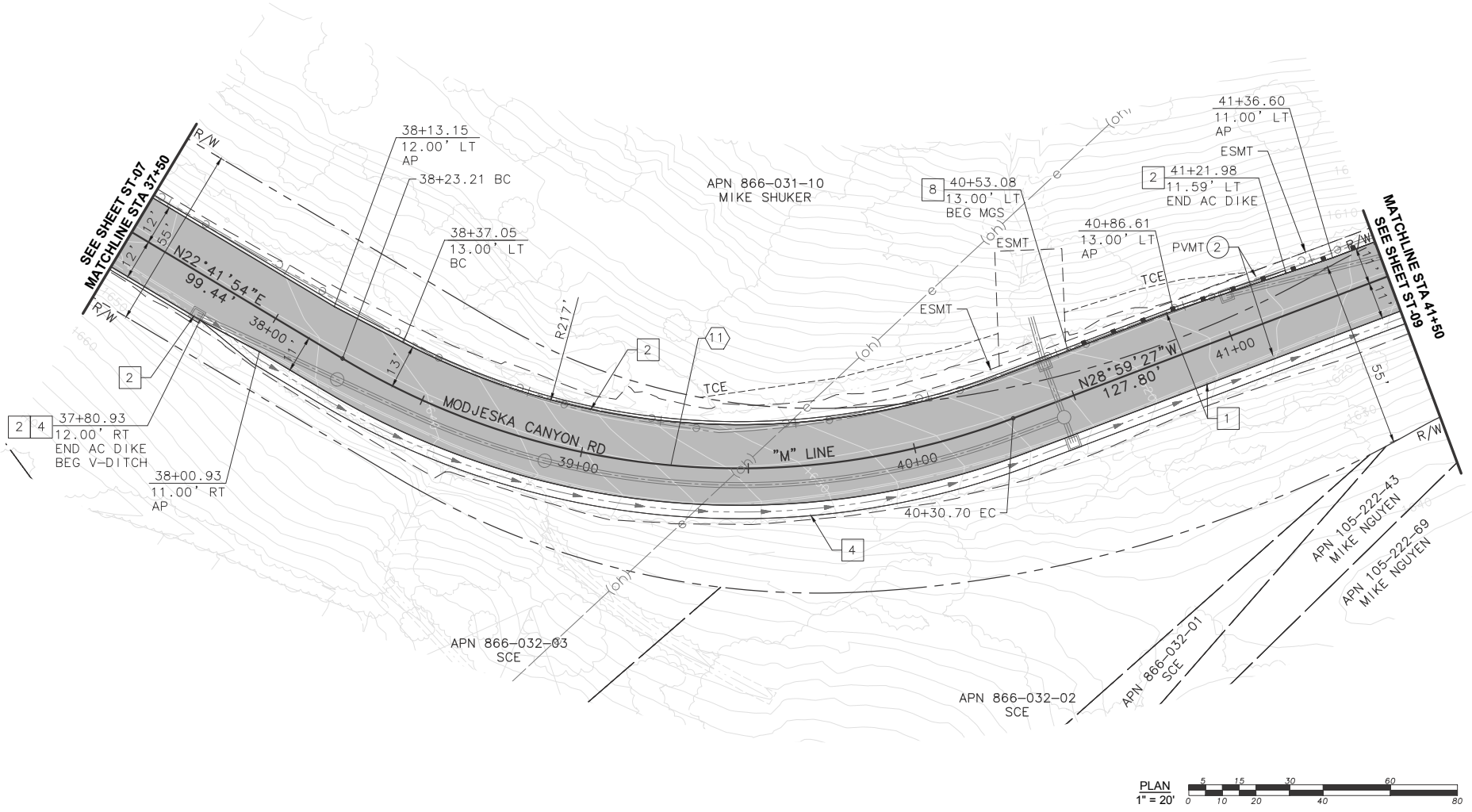
Exhibit 2-4g



CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V-DITCH, 4' WIDE
8. INSTALL MIDWEST GUARDRAIL SYSTEM PER CALTRANS STD PLAN A77L2

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

SHEET
ST-08

Source: Mark Thomas, December 2023

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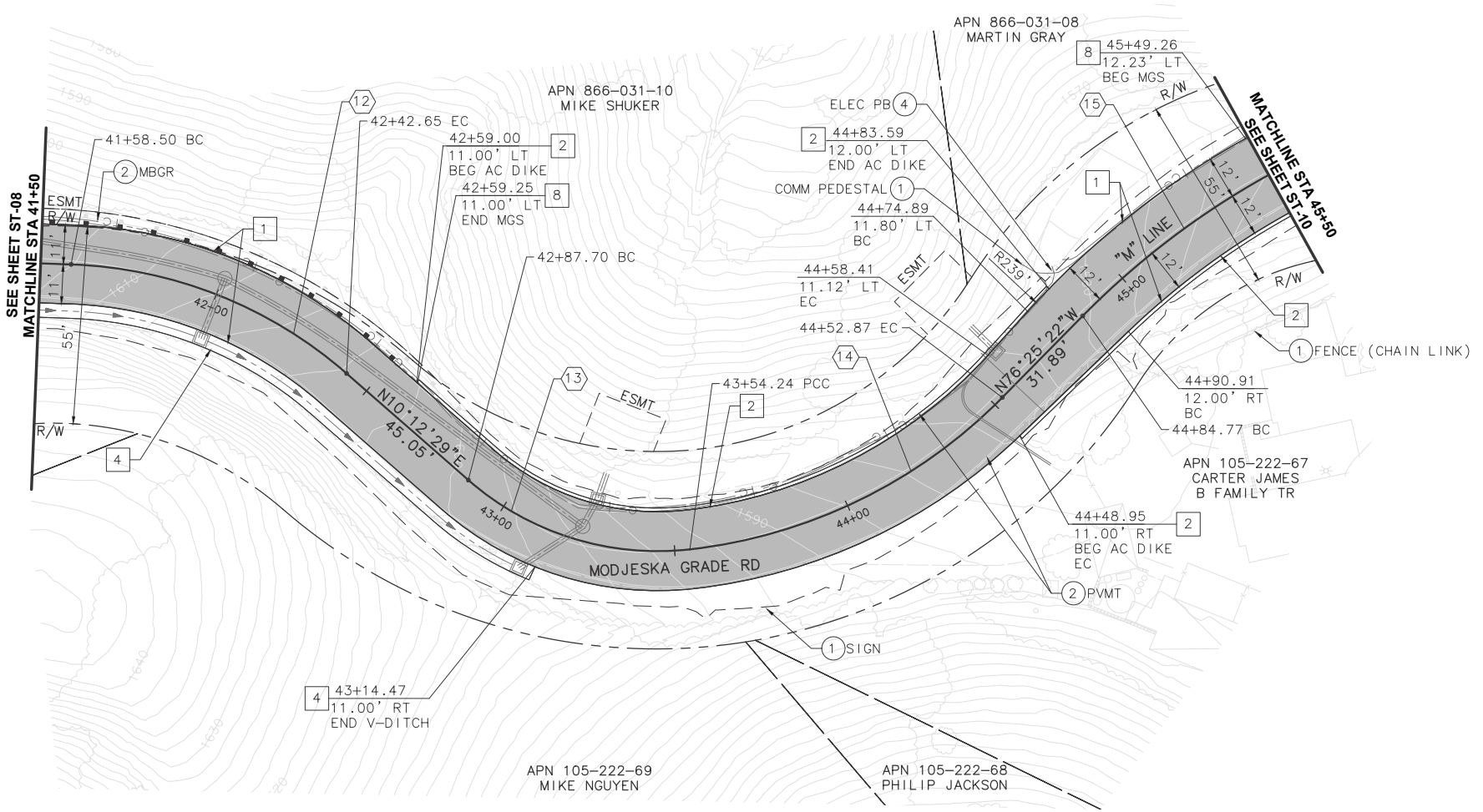
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 8

Exhibit 2-4h



CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V-DITCH, 4' WIDE
8. INSTALL MIDWEST GUARDRAIL SYSTEM PER CALTRANS STD PLAN A77L2

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN
4. ADJUST TO GRADE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

PLAN
1" = 20'
0 5 10 15 20 30 40 60 80

SHEET
ST-09

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 9

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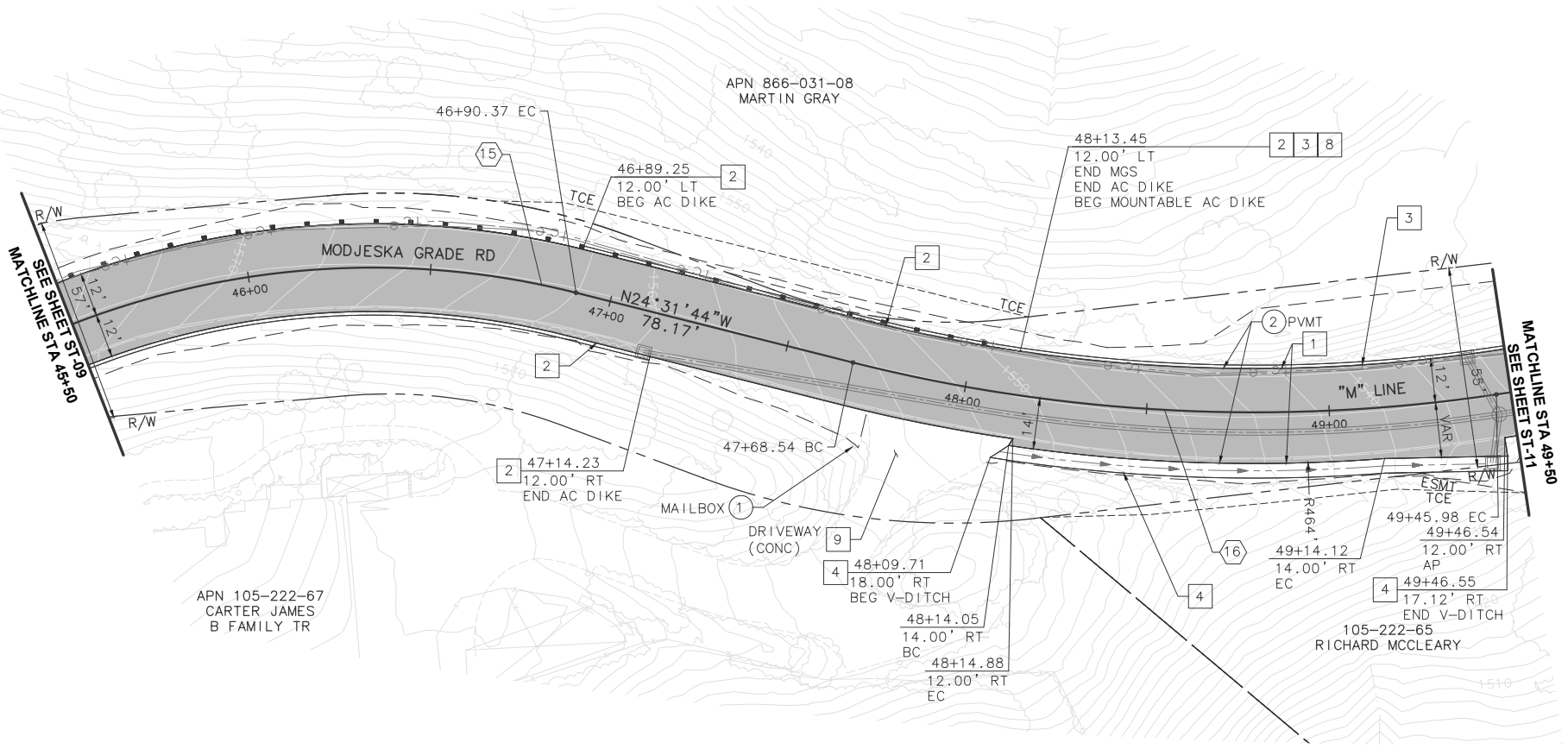
Exhibit 2-4i



PLAN
1" = 20'

0 10 20 40 80
5 15 30 60

CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
3. CONSTRUCT MOUNTABLE AC DIKE (TYPE D) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V-DITCH, 4' WIDE
8. INSTALL MIDWEST GUARDRAIL SYSTEM PER CALTRANS STD PLAN A77L2
9. RECONSTRUCT PORTION OF DRIVEWAY

DISPOSITION NOTES:

(1) PROTECT IN PLACE
(2) REMOVE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

SHEET
ST-10

Source: Mark Thomas, December 2023

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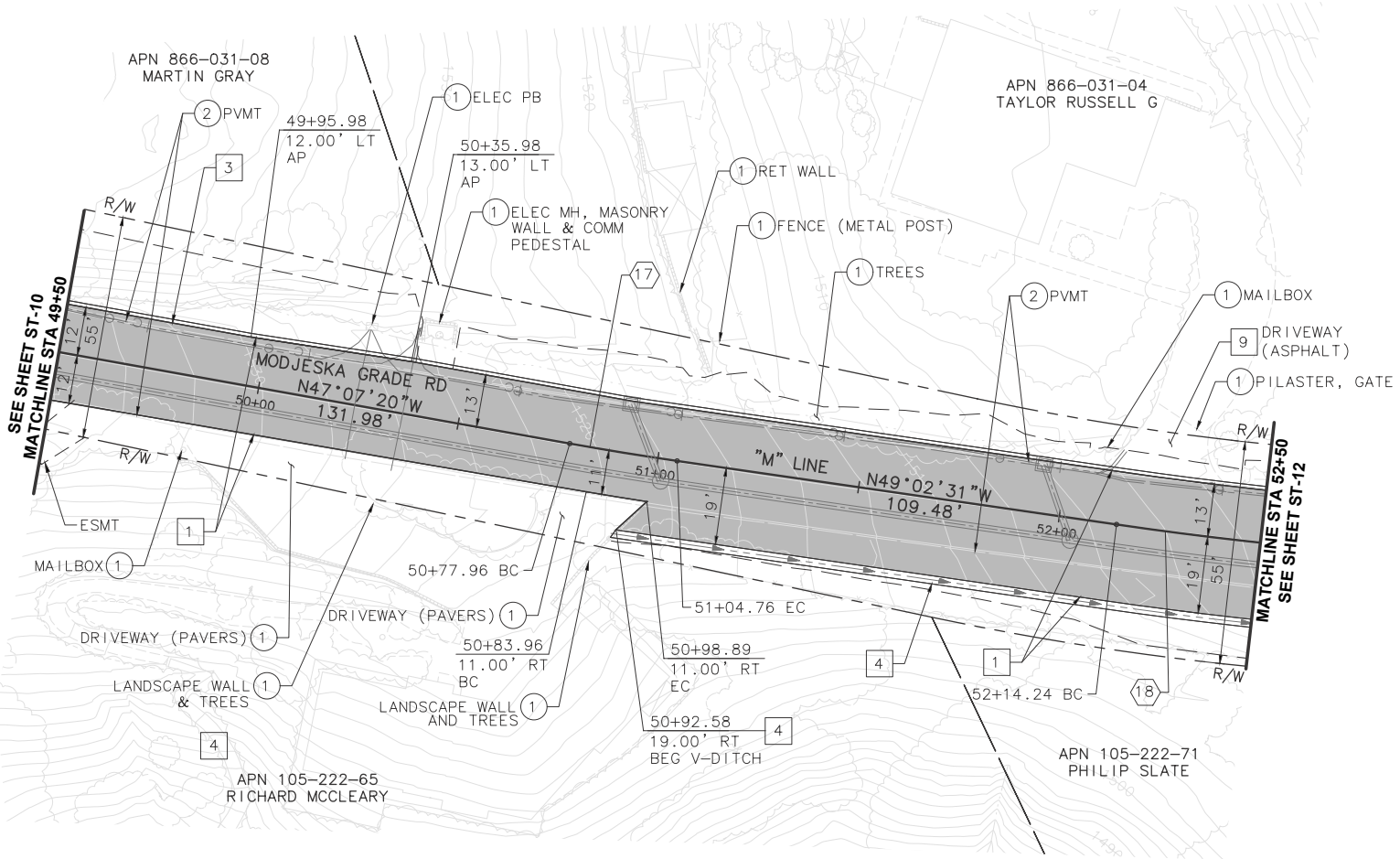
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 10

Exhibit 2-4j



CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
3. CONSTRUCT MOUNTABLE AC DIKE (TYPE D) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V-DITCH, 4' WIDE
9. RECONSTRUCT PORTION OF DRIVEWAY

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

PLAN
1" = 20'
0 5 10 15 20 30 40 60 80

SHEET
ST-11

Source: Mark Thomas, December 2023

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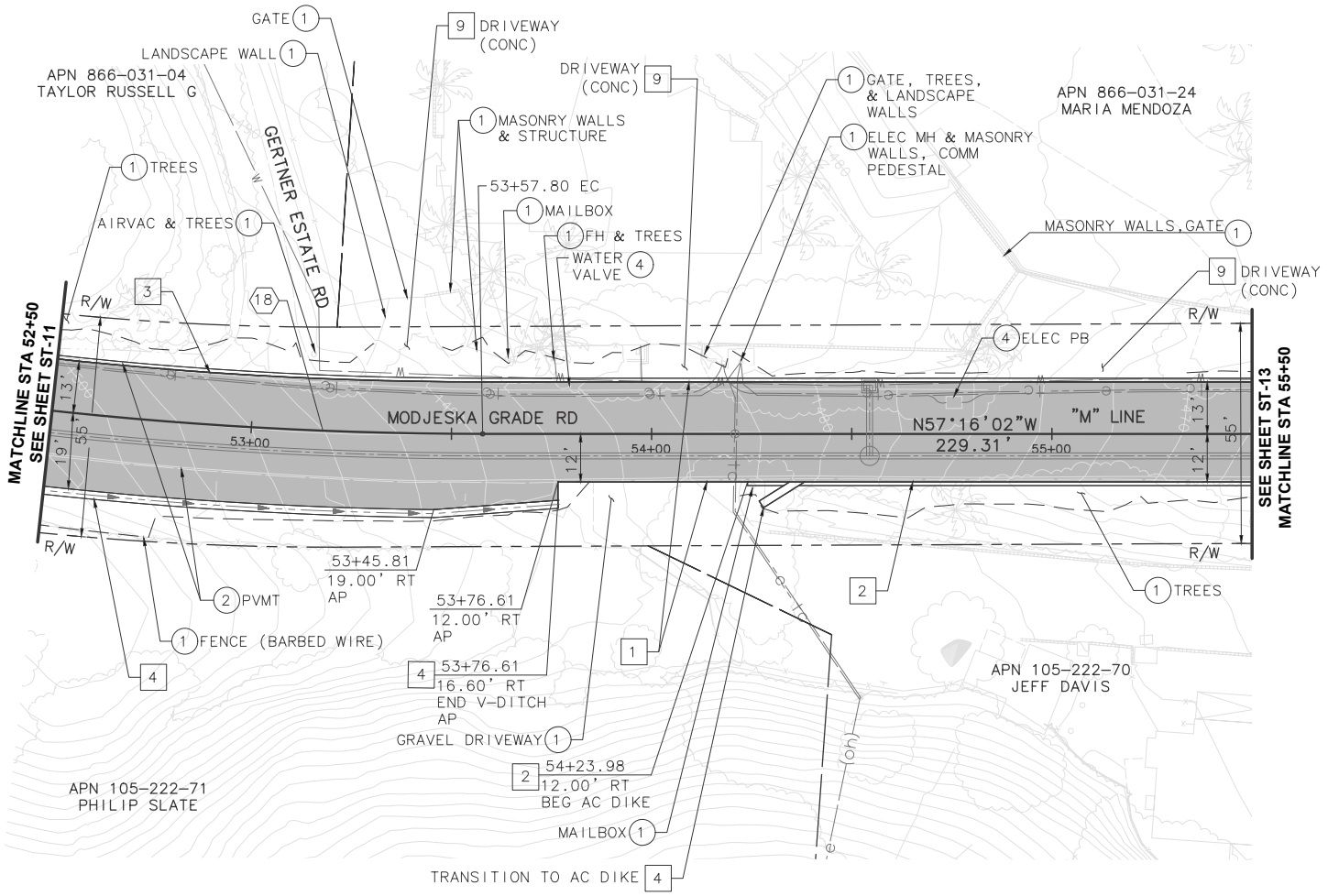
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 11

Exhibit 2-4k



CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
3. CONSTRUCT MOUNTABLE AC DIKE (TYPE D) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V–DITCH, 4' WIDE
9. RECONSTRUCT PORTION OF DRIVEWAY

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN
4. ADJUST TO GRADE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

PLAN 1" = 20'

5 15 30 60
0 10 20 40 80

SHEET
ST-12

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 12

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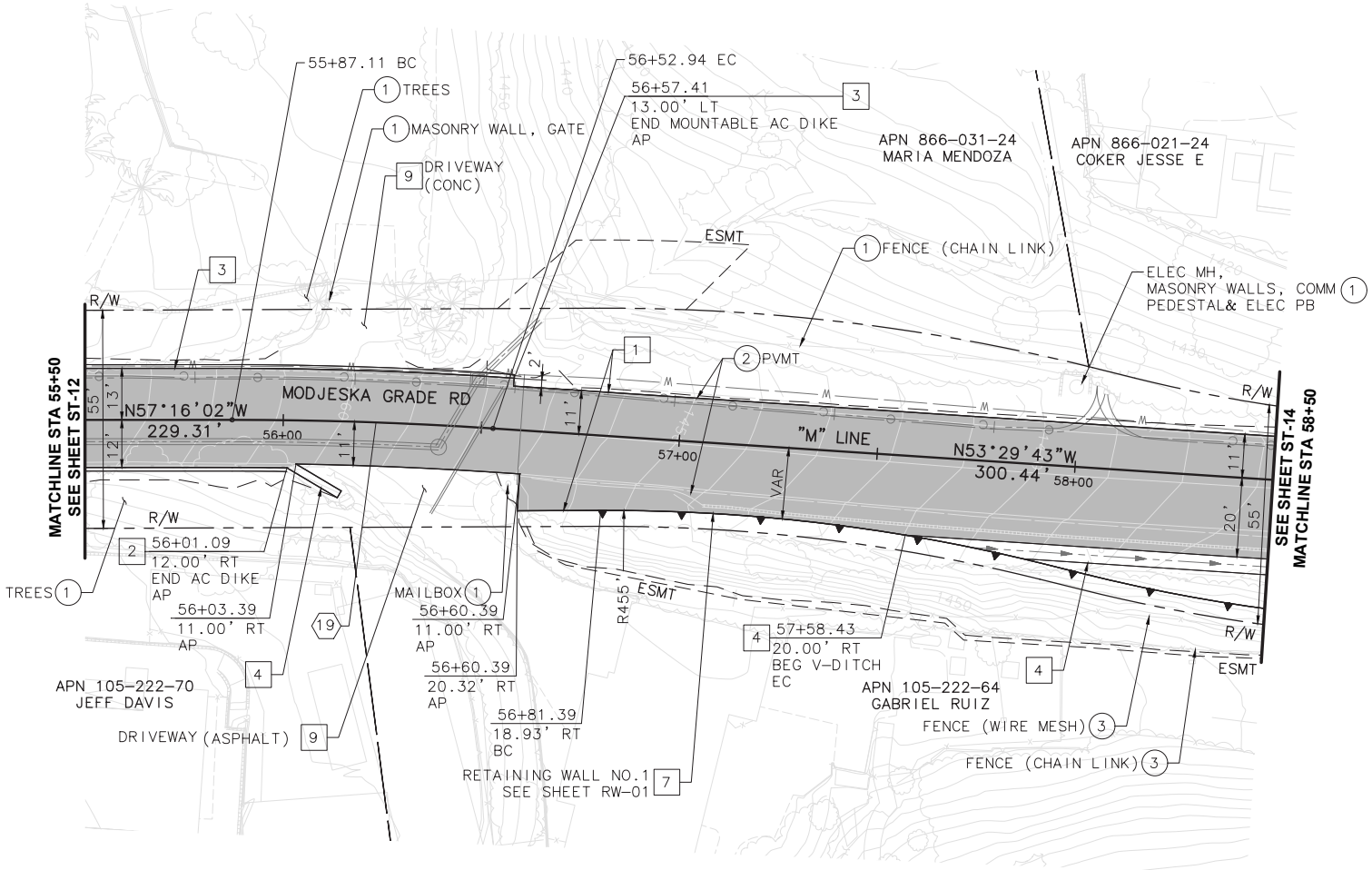
Exhibit 2-4I



CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRAI STD. PLAN A87B
3. CONSTRUCT MOUNTABLE AC DIKE (TYPE D) I CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V-DITCH, 4' WIDE
7. CONSTRUCT RETAINING WALL
9. RECONSTRUCT PORTION OF DRIVEWAY

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN
3. RELOCATE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

PLAN 1" = 20'

0 10 20 40 80

SHEET
ST-13

Source: Mark Thomas, December 2023

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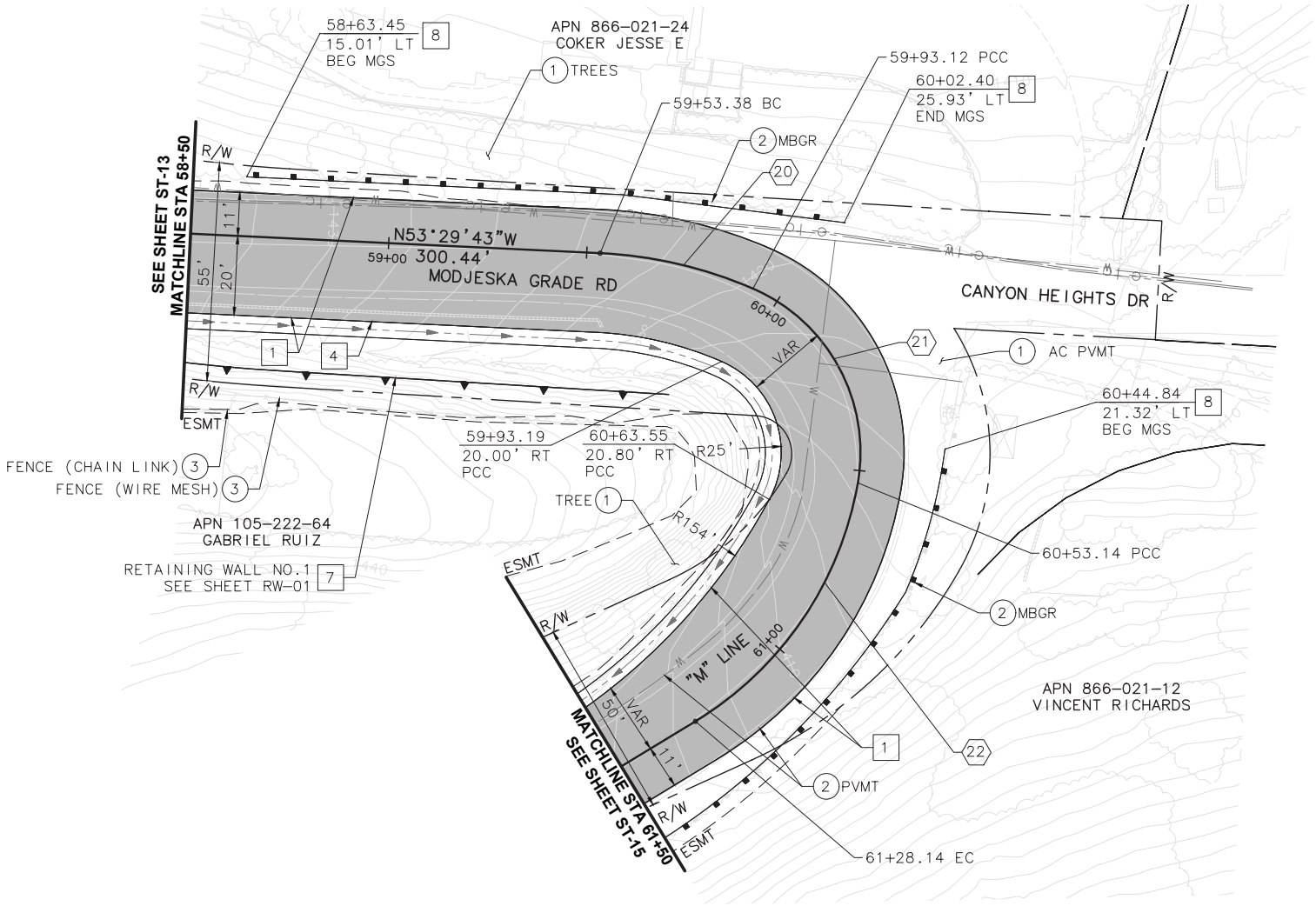
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 13

Exhibit 2-4m



CONSTRUCTION NOTES:

- 1 CONSTRUCT 0.70'AC
- 4 CONSTRUCT CONCRETE V-DITCH, 4' WIDE
- 8 INSTALL MIDWEST GUARDRAIL SYSTEM PER CALTRANS STD PLAN A77L2

DISPOSITION NOTES:

- (1) PROTECT IN PLACE
- (2) REMOVE, PER PLAN
- (3) RELOCATE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

PLAN
1" = 20'

5 15 30 60
0 10 20 40 80

SHEET
ST-14

Source: Mark Thomas, December 2023

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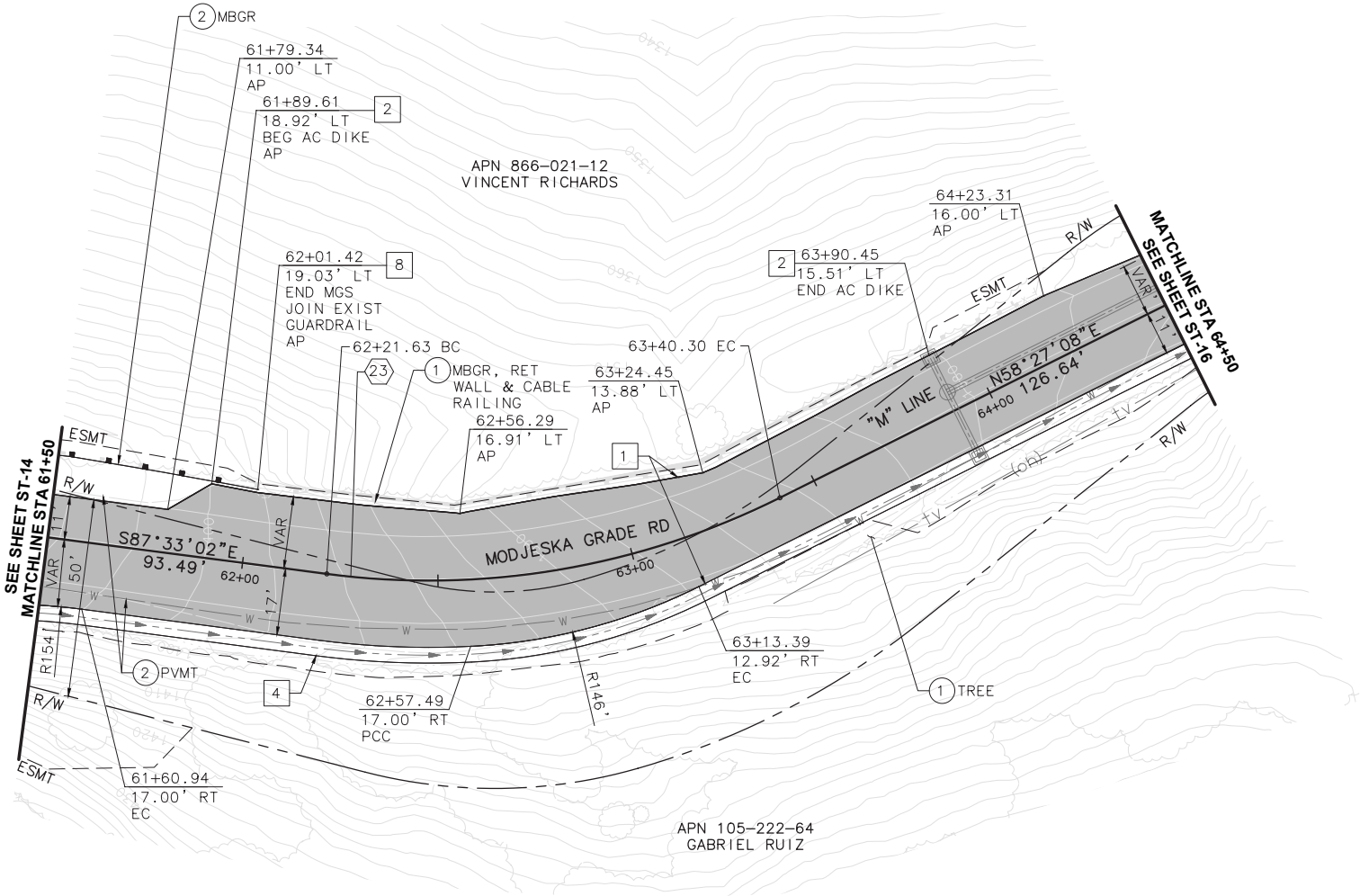
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 14

Exhibit 2-4n



CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V-DITCH, 4' WIDE
8. INSTALL MIDWEST GUARDRAIL SYSTEM PER CALTRANS STD PLAN A77L2

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN
3. RELOCATE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

PLAN
1" = 20'

0 5 10 15 20 30 40 60 80

SHEET
ST-15

Source: Mark Thomas, December 2023

Plan Sheet 15

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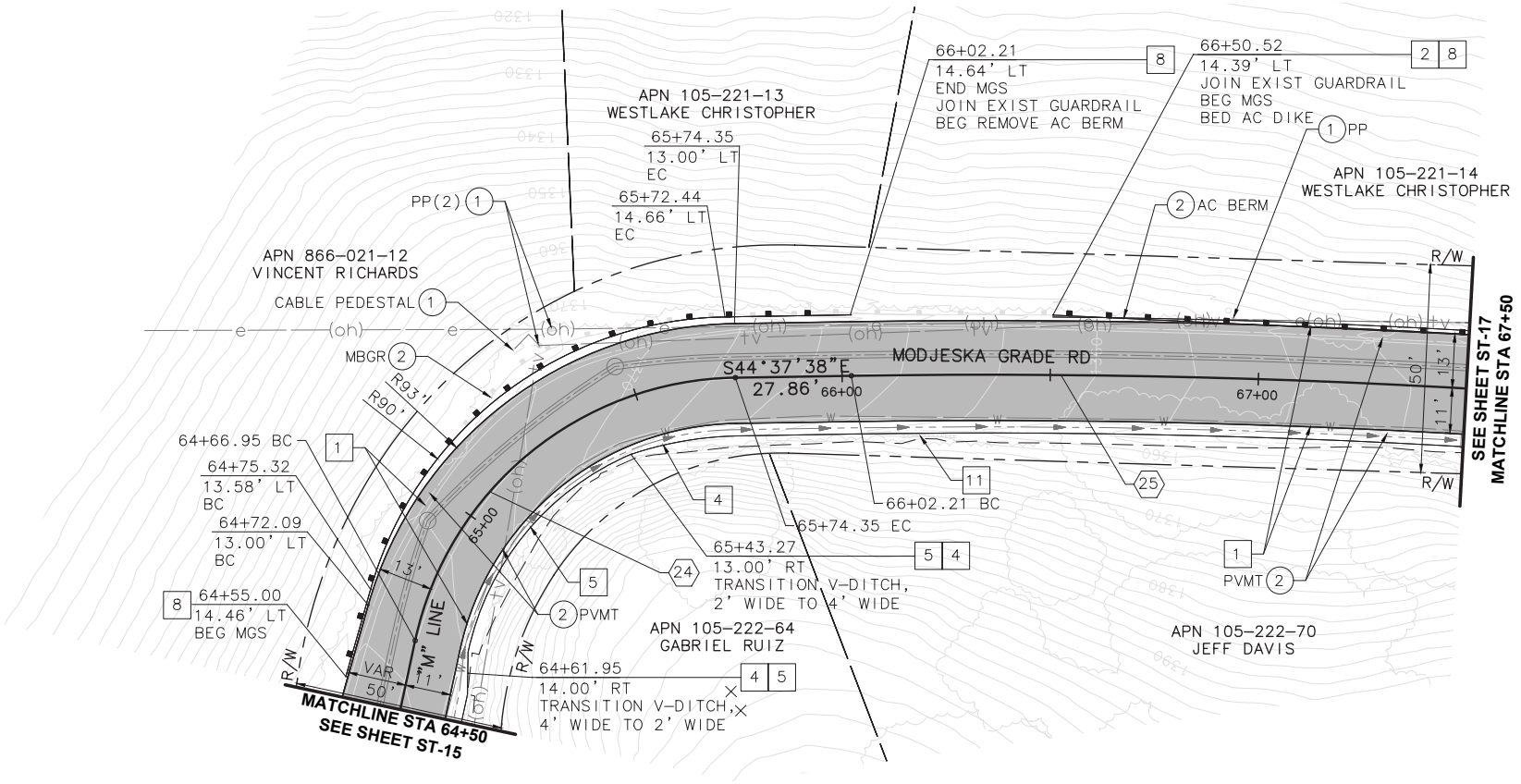
Exhibit 2-4o



CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V–DITCH, 4' WIDE
5. CONSTRUCT CONCRETE V–DITCH, 2' WIDE
8. INSTALL MIDWEST GUARDRAIL SYSTEM PER CALTRANS STD PLAN A77L2
11. REMOVE AND RECONSTRUCT EROSION FENCE

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

PLAN
1" = 20'
0 10 20 40 80

SHEET
ST-16

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 16

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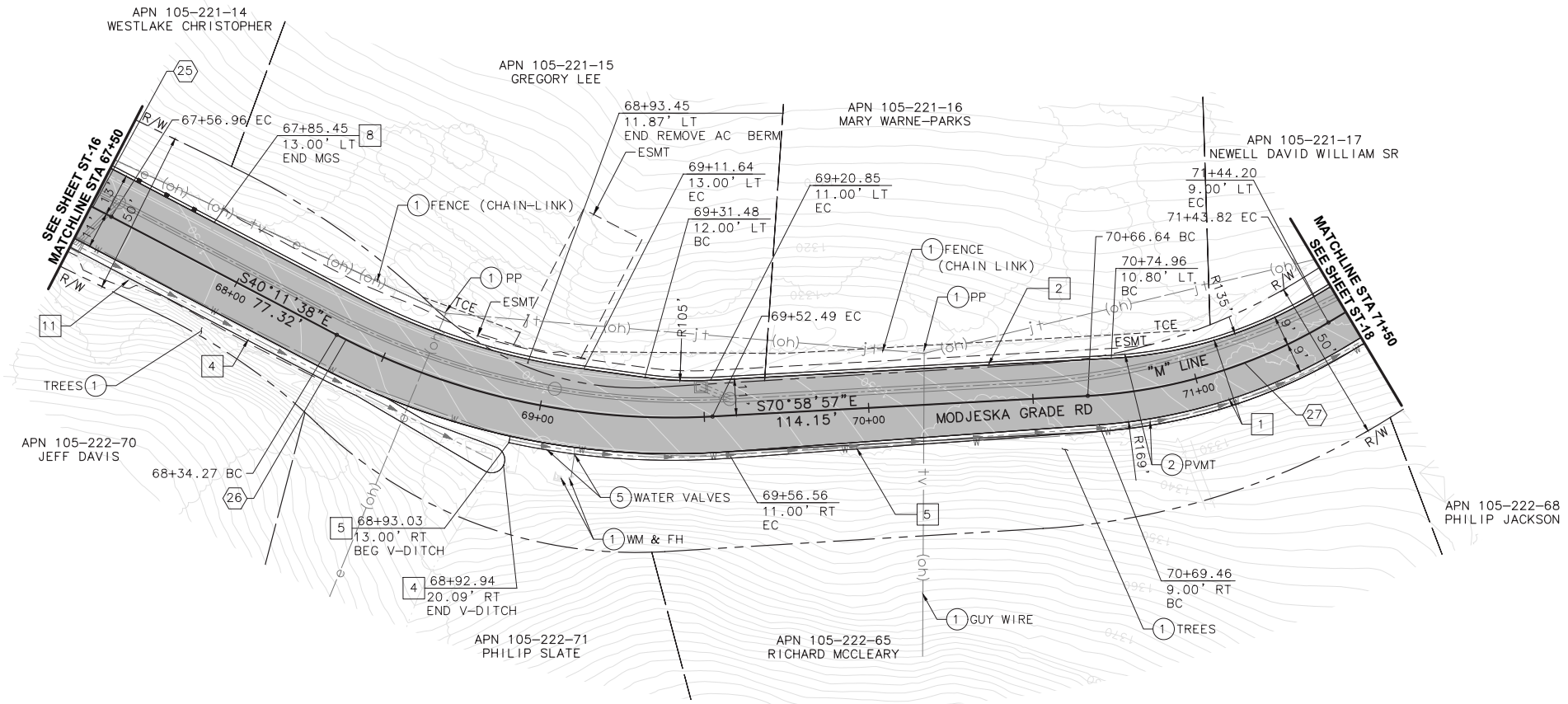
Exhibit 2-4p



CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V-DITCH, 4' WIDE
5. CONSTRUCT CONCRETE V-DITCH, 2' WIDE
8. INSTALL MIDWEST GUARDRAIL SYSTEM PER CALTRANS STD PLAN A77L2
11. REMOVE AND RECONSTRUCT EROSION FENCE

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN
5. RELOCATE, BY OTHERS

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

PLAN
1" = 20'
0 10 20 40 80

SHEET
ST-17

Source: Mark Thomas, December 2023

Michael Baker INTERNATIONAL

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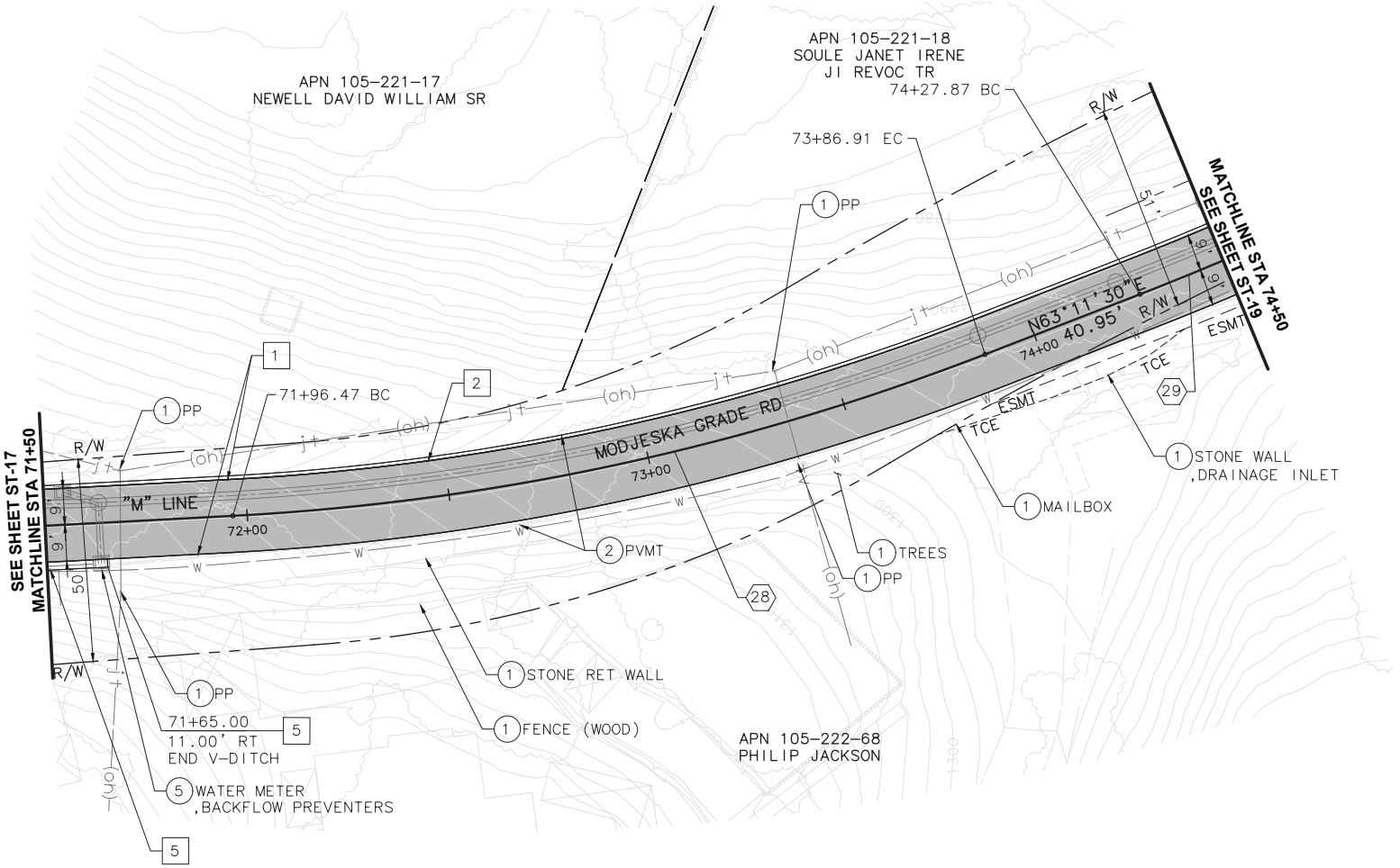
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 17

Exhibit 2-4q



CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
5. CONSTRUCT CONCRETE V–DITCH, 2' WIDE

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN
5. RELOCATE, BY OTHERS

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

PLAN
1" = 20'

5 15 30 60
0 10 20 40 80

SHEET
ST-18

Source: Mark Thomas, December 2023

Michael Baker INTERNATIONAL

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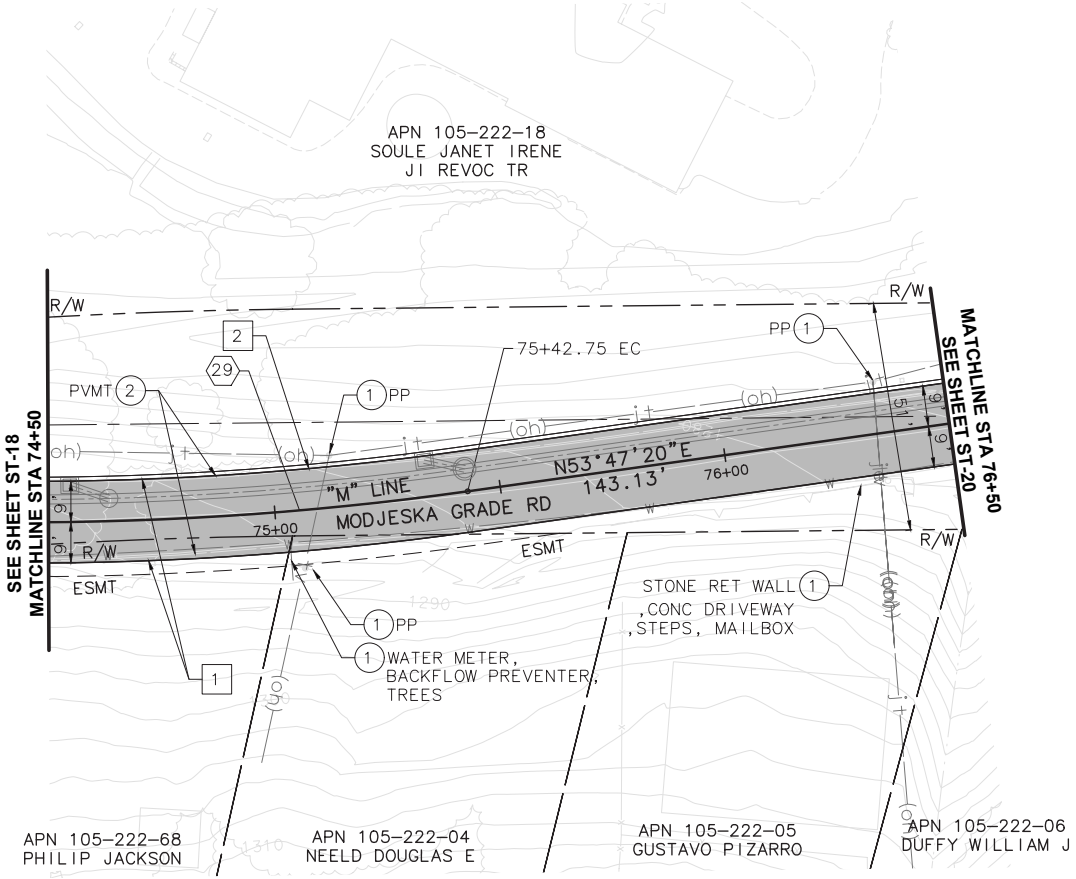
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 18

Exhibit 2-4r



CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

PLAN
1" = 20'

5 15 30 60
0 10 20 40 80

SHEET
ST-19

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 19

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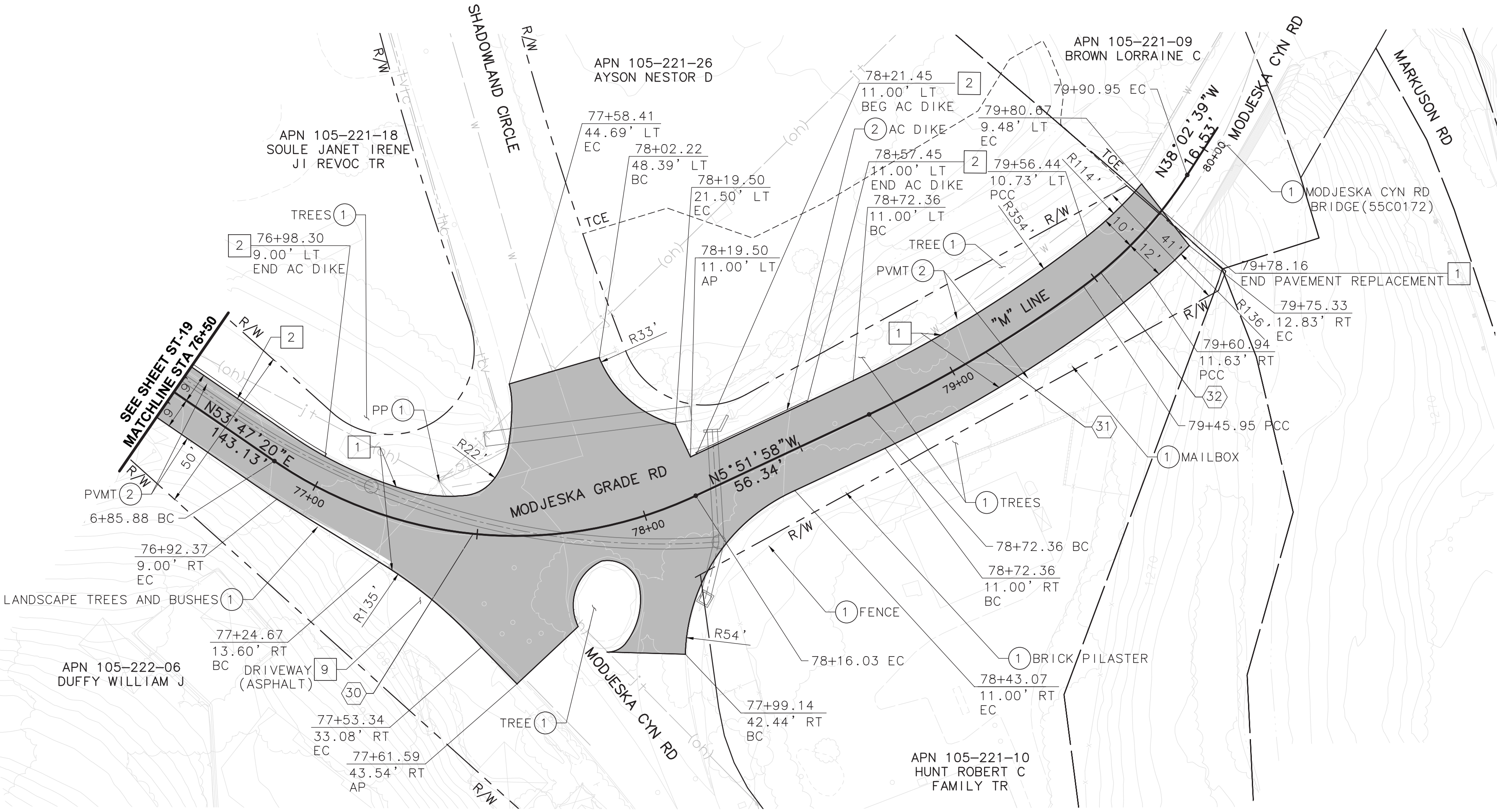
Exhibit 2-4s



CONSTRUCTION NOTES:

1. CONSTRUCT 0.70' AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
9. RECONSTRUCT PORTION OF DRIVEWAY

DISPOSITION NOTES:

1. PROTECT IN PLACE
2. REMOVE, PER PLAN

LEGEND:

- MIDWEST GUARDRAIL SYSTEM
- EXISTING R/W
- EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RETAINING WALL
- CONSTRUCT PAVEMENT PER STRUCTURAL SECTION

PLAN
1" = 20'
0 5 10 15 20 30 40 60 80

SHEET
ST-20

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 20

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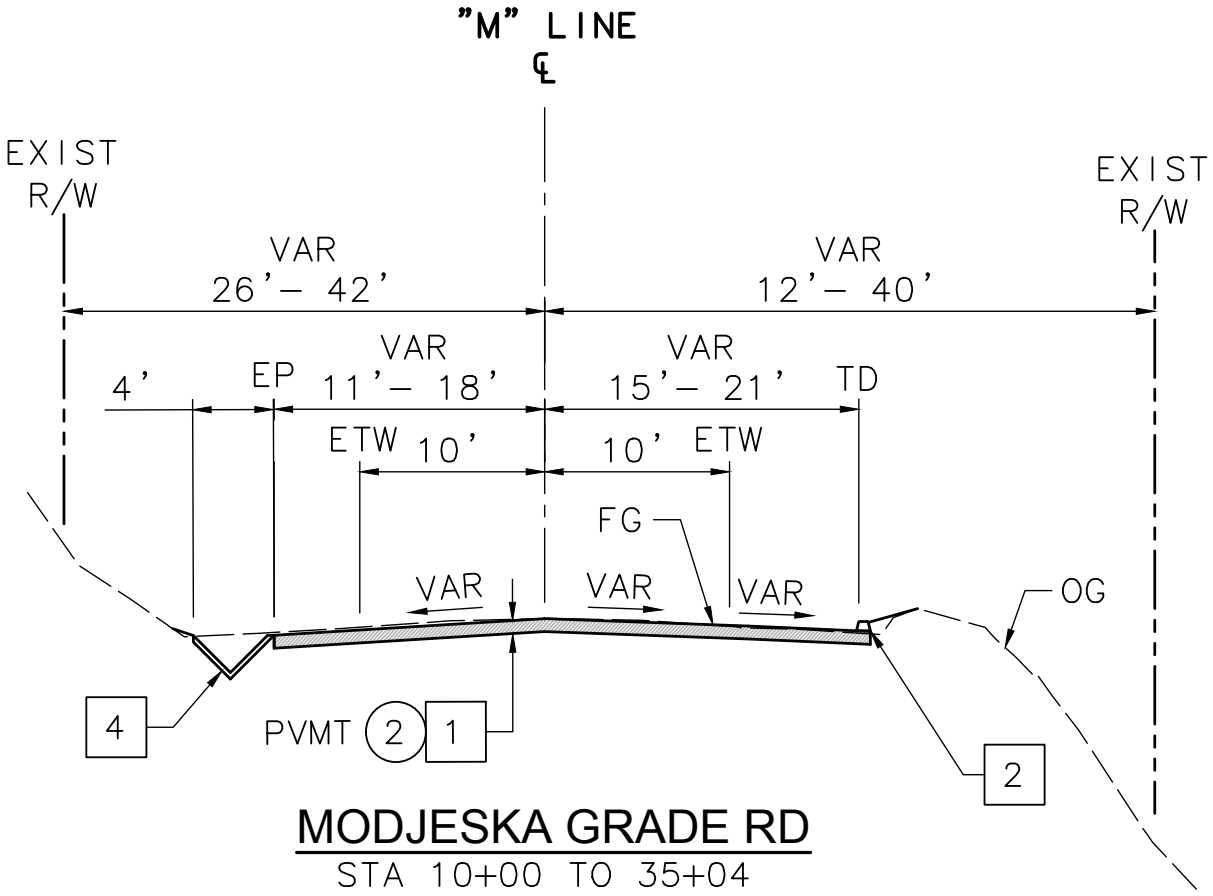
Exhibit 2-4t



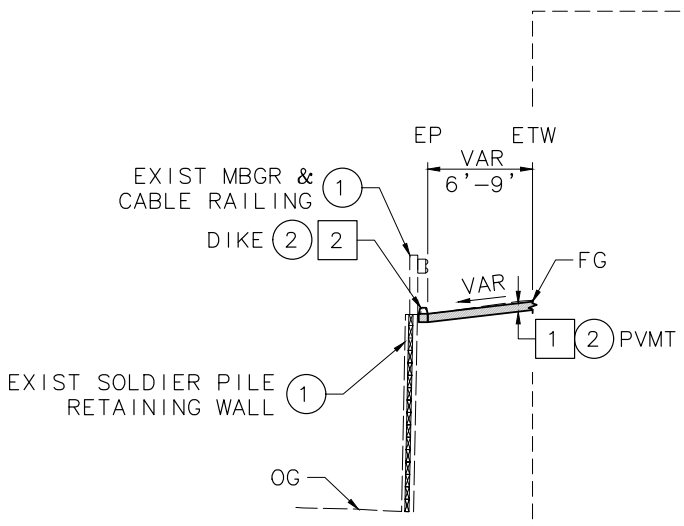
CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
3. CONSTRUCT MOUNTABLE AC DIKE (TYPE D) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V–DITCH, 4' WIDE
5. CONSTRUCT CONCRETE V–DITCH, 2' WIDE
7. CONSTRUCT RETAINING WALL
8. INSTALL MIDWEST GUARDRAIL SYSTEM PER CALTRANS STD PLAN A77L2

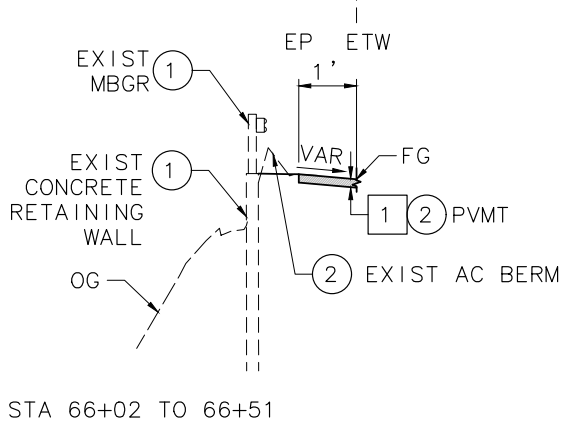
REMOVALS :

1. PROTECT IN PLACE
2. REMOVE, PER PLAN

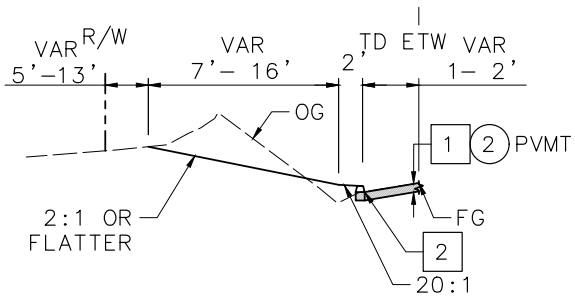
Source: Mark Thomas, December 2023



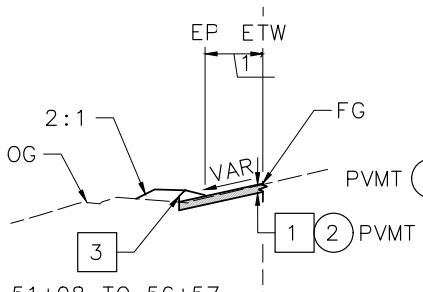
STA 62+01 TO 64+23



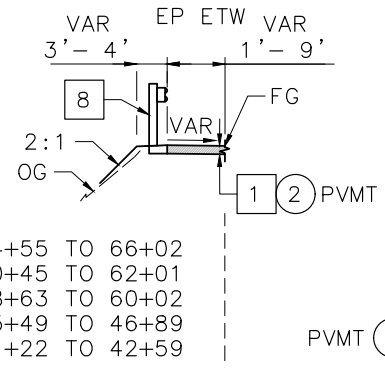
STA 66+02 TO 66+51



STA 48+60 TO 51+08



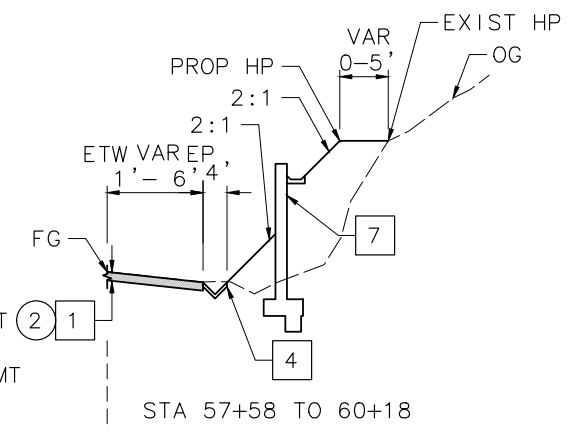
STA 51+08 TO 56+57
STA 48+13 TO 48+60



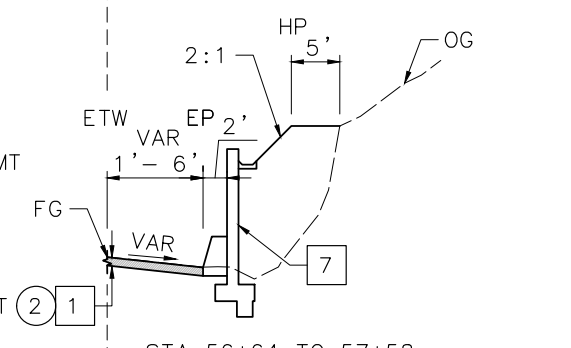
STA 64+55 TO 66+02
STA 60+45 TO 62+01
STA 58+63 TO 60+02
STA 45+49 TO 46+89
STA 41+22 TO 42+59

STA 66+51 TO 67+85
STA 46+89 TO 48+13
STA 40+53 TO 41+22

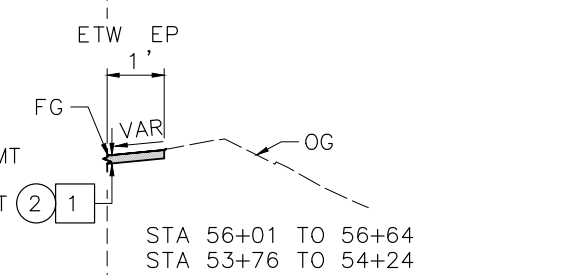
STA 67+85 TO 71+65
STA 42+59 TO 44+84
STA 37+36 TO 40+53



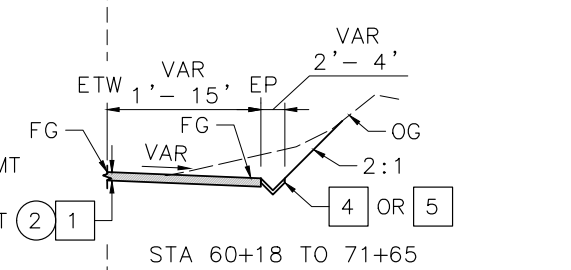
STA 57+58 TO 60+18



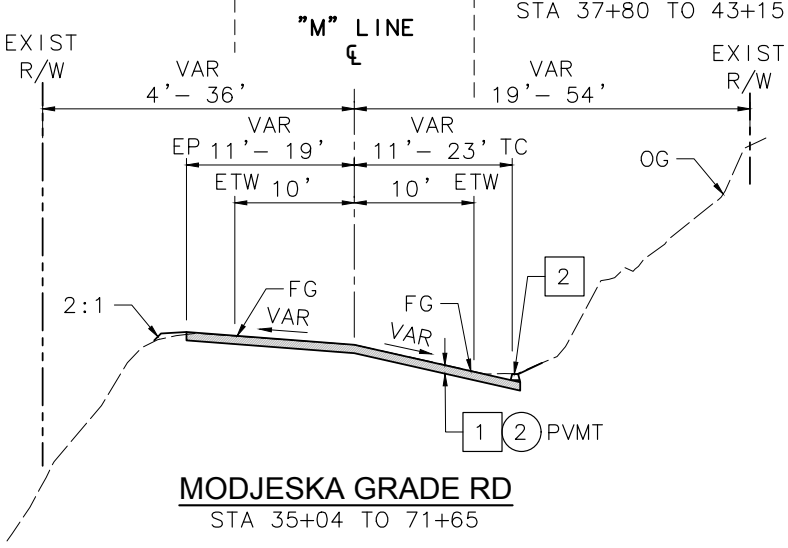
STA 56+64 TO 57+58



STA 56+01 TO 56+64
STA 53+76 TO 54+24
STA 49+47 TO 50+93
STA 47+14 TO 48+09
STA 43+15 TO 44+49



STA 60+18 TO 71+65
STA 50+93 TO 53+76
STA 48+09 TO 49+47
STA 37+80 TO 43+15



MODJESKA GRADE RD
STA 35+04 TO 71+65

CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
3. CONSTRUCT MOUNTABLE AC DIKE (TYPE D) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V–DITCH, 4' WIDE
5. CONSTRUCT CONCRETE V–DITCH, 2' WIDE
7. CONSTRUCT RETAINING WALL
8. INSTALL MIDWEST GUARDRAIL SYSTEM PER CALTRANS STD PLAN A77L2

REMOVALS :

(1) PROTECT IN PLACE

(2) REMOVE, PER PLAN

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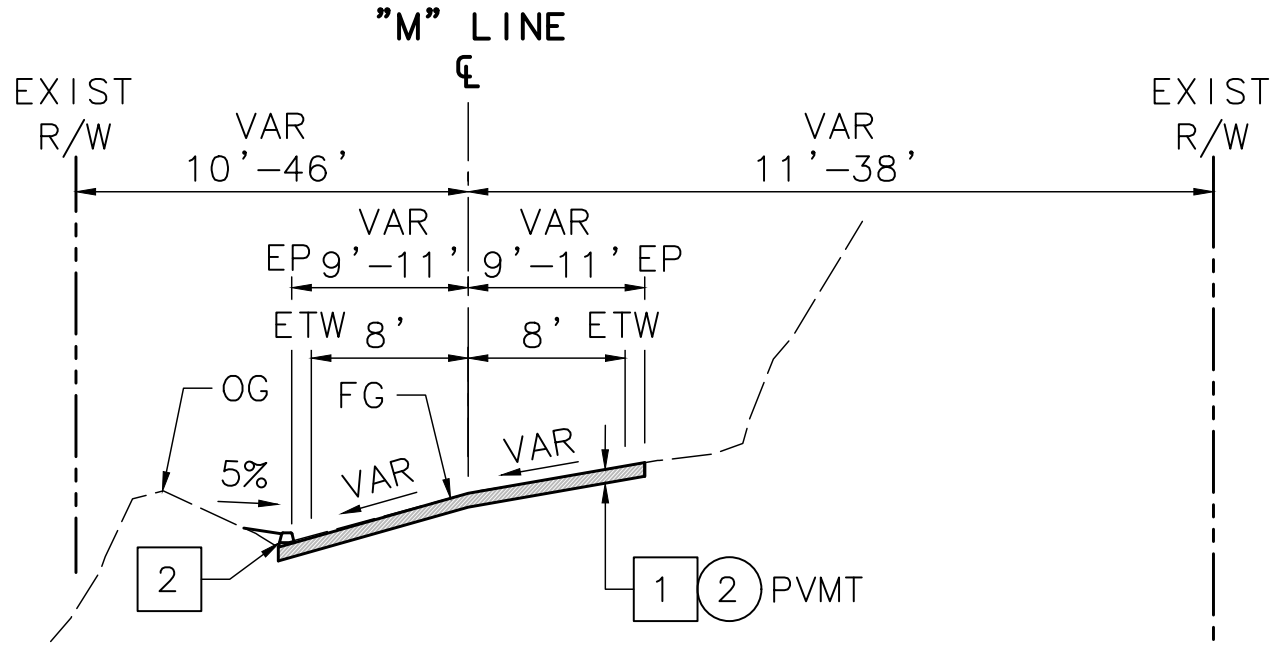


MODJESKA GRADE RD

STA 71+65 TO 77+27

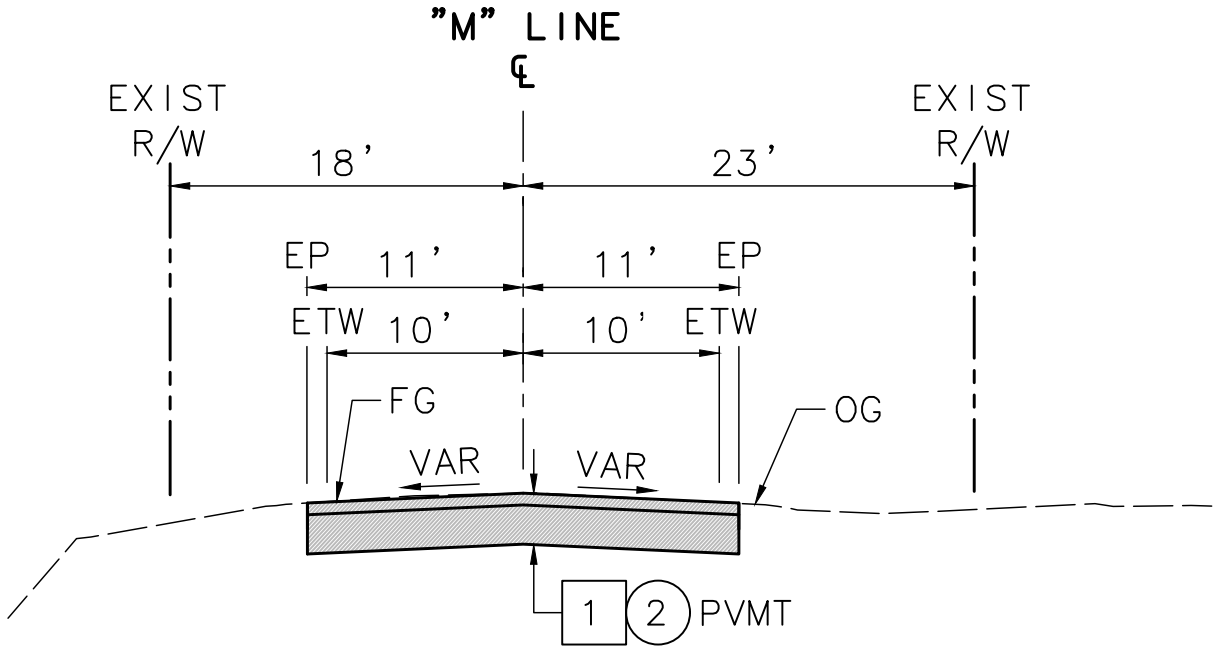
CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
3. CONSTRUCT MOUNTABLE AC DIKE (TYPE D) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V–DITCH, 4' WIDE
5. CONSTRUCT CONCRETE V–DITCH, 2' WIDE
7. CONSTRUCT RETAINING WALL
8. INSTALL MIDWEST GUARDRAIL SYSTEM PER CALTRANS STD PLAN A77L2

REMOVALS :

(1) PROTECT IN PLACE
(2) REMOVE, PER PLAN

Source: Mark Thomas, December 2023



MODJESKA GRADE RD

STA 78+19 TO 79+80

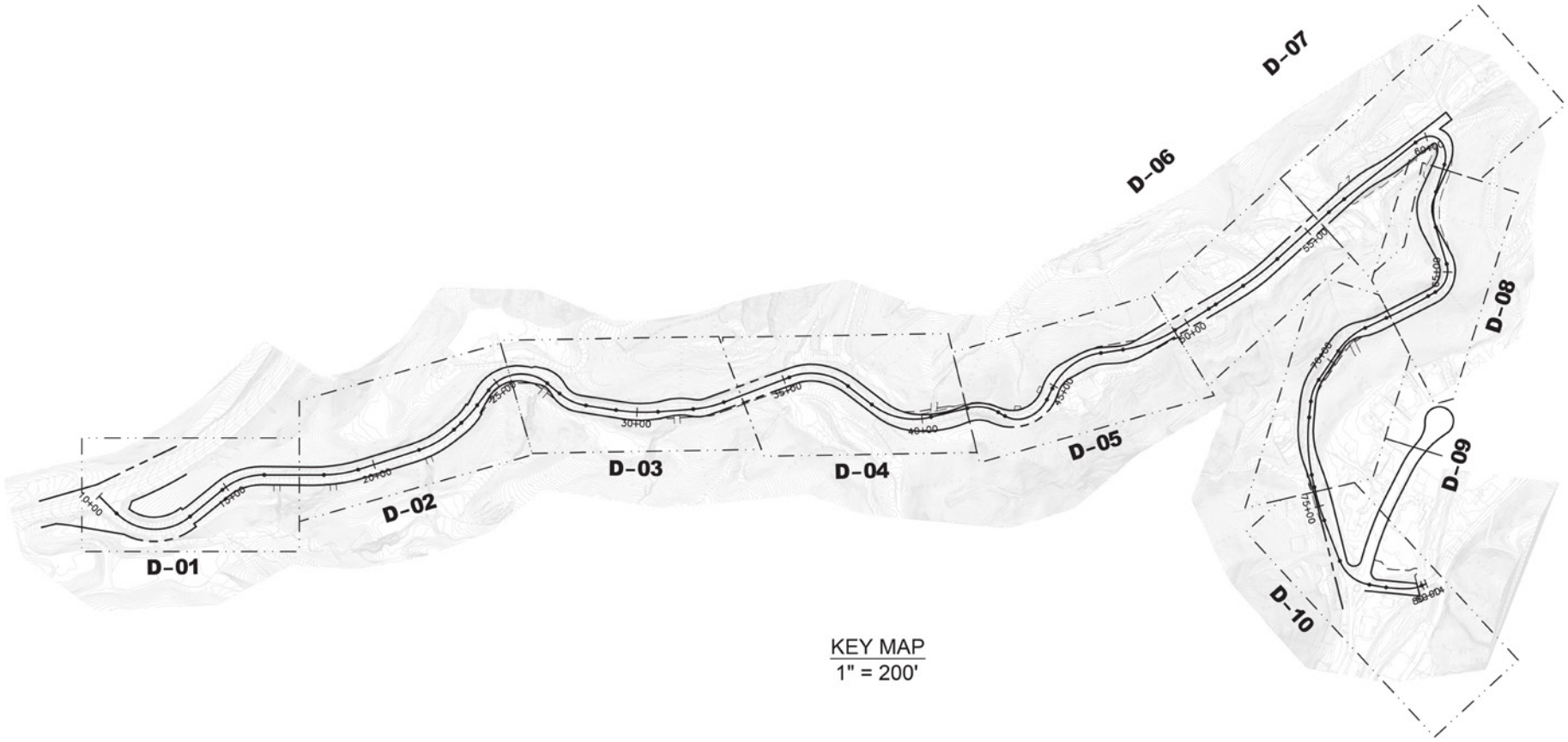
CONSTRUCTION NOTES:

1. CONSTRUCT 0.70'AC
2. CONSTRUCT AC DIKE (TYPE A) PER CALTRANS STD. PLAN A87B
3. CONSTRUCT MOUNTABLE AC DIKE (TYPE D) PER CALTRANS STD. PLAN A87B
4. CONSTRUCT CONCRETE V-DITCH, 4' WIDE
5. CONSTRUCT CONCRETE V-DITCH, 2' WIDE
7. CONSTRUCT RETAINING WALL
8. INSTALL MIDWEST GUARDRAIL SYSTEM PER CALTRANS STD PLAN A77L2

REMOVALS :

1. PROTECT IN PLACE
2. REMOVE, PER PLAN

Source: Mark Thomas, December 2023



Source: Mark Thomas, December 2023

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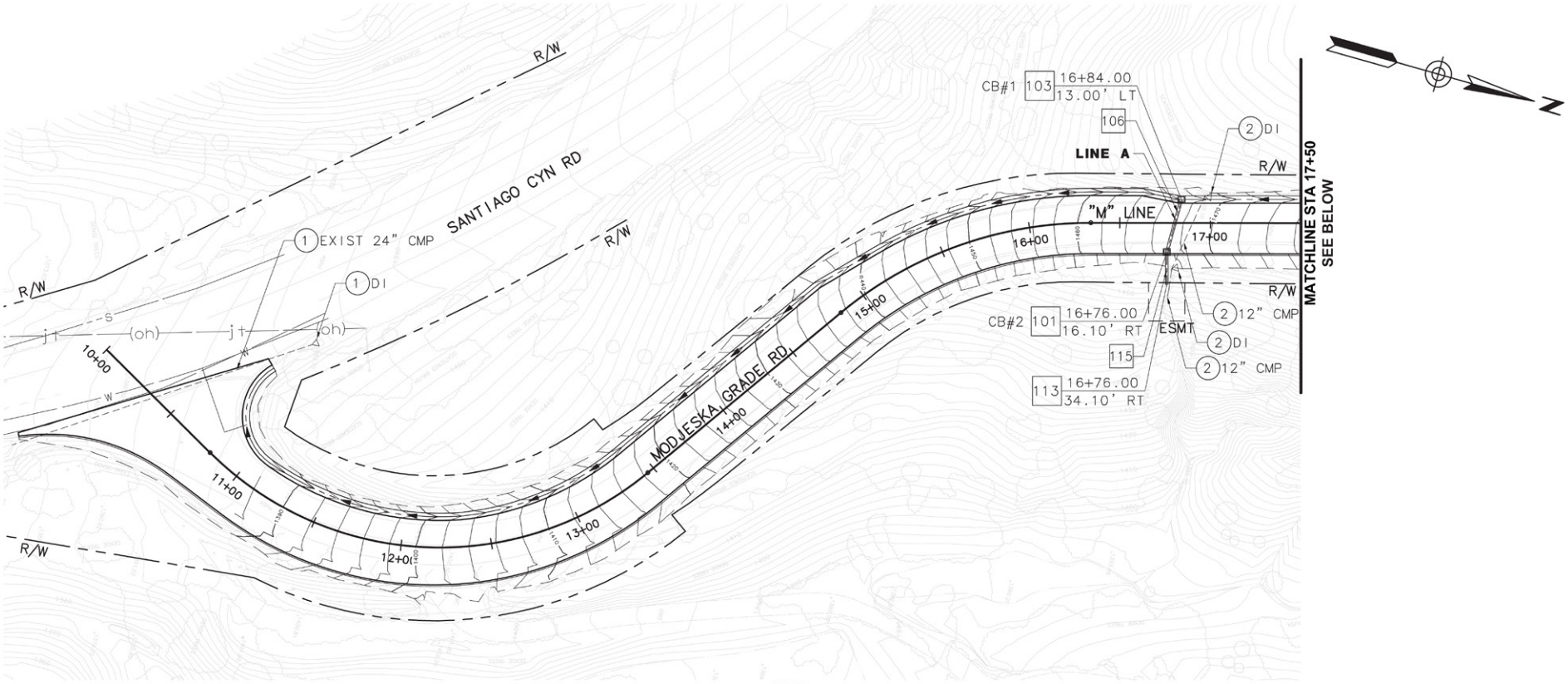
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Conceptual Drainage Plan Key Map

Exhibit 2-6



PLAN
1" = 40'

CONSTRUCTION NOTES

101 CONSTRUCT INLET (TYPE GO) PER CALTRANS STD PLAN D72E AND D72F

102 CONSTRUCT NON-REINFORCED CONCRETE CONCENTRIC CONE MANHOLE PER OCPW STD PLAN 1501

103 CONSTRUCT INLET MODIFIED WITH SIDE OPENING PER DETAIL ON SHEET DD-01

106 INSTALL 18" RCP

113 CONSTRUCT OUTLET DISSIPATION

114 ABANDON PIPE

115 INSTALL 18" CMP

DISPOSITION NOTES:

(1) PROTECT IN PLACE

(2) REMOVE, PER PLAN

PLAN
1" = 40'

0 10 20 30 40 60 80 120 160

SHEET
D-01

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 1

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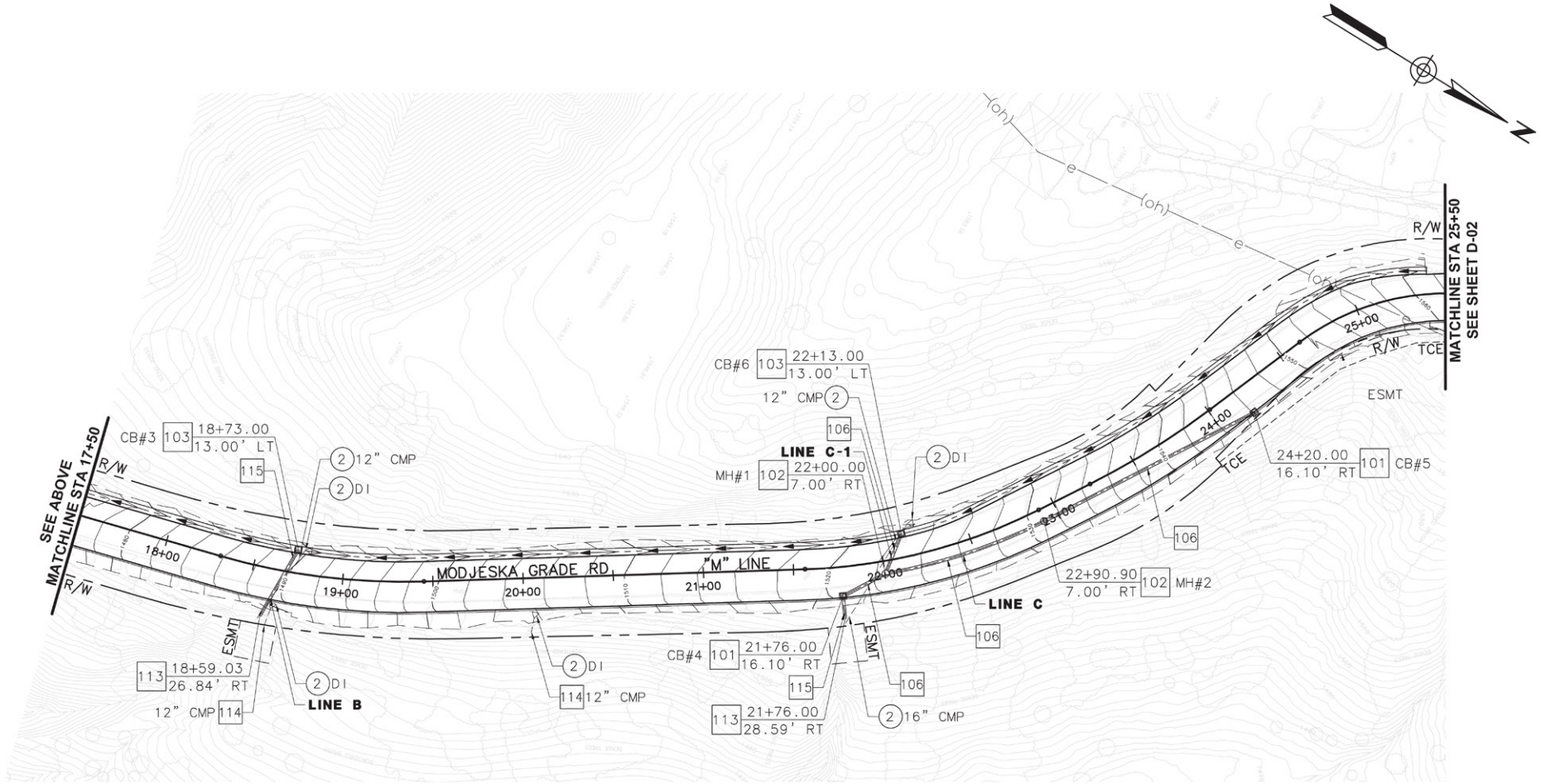
Exhibit 2-6a



CONSTRUCTION NOTES

101 CONSTRUCT INLET (TYPE GO) PER CALTRANS STD PLAN D72E AND D72F

102 CONSTRUCT NON-REINFORCED CONCRETE CONCENTRIC CONE MANHOLE PER OCPW STD PLAN 1501

103 CONSTRUCT INLET MODIFIED WITH SIDE OPENING PER DETAIL ON SHEET DD-01

106 INSTALL 18" RCP

113 CONSTRUCT OUTLET DISSIPATION

114 ABANDON PIPE

115 INSTALL 18" CMP

DISPOSITION NOTES:

(1) PROTECT IN PLACE

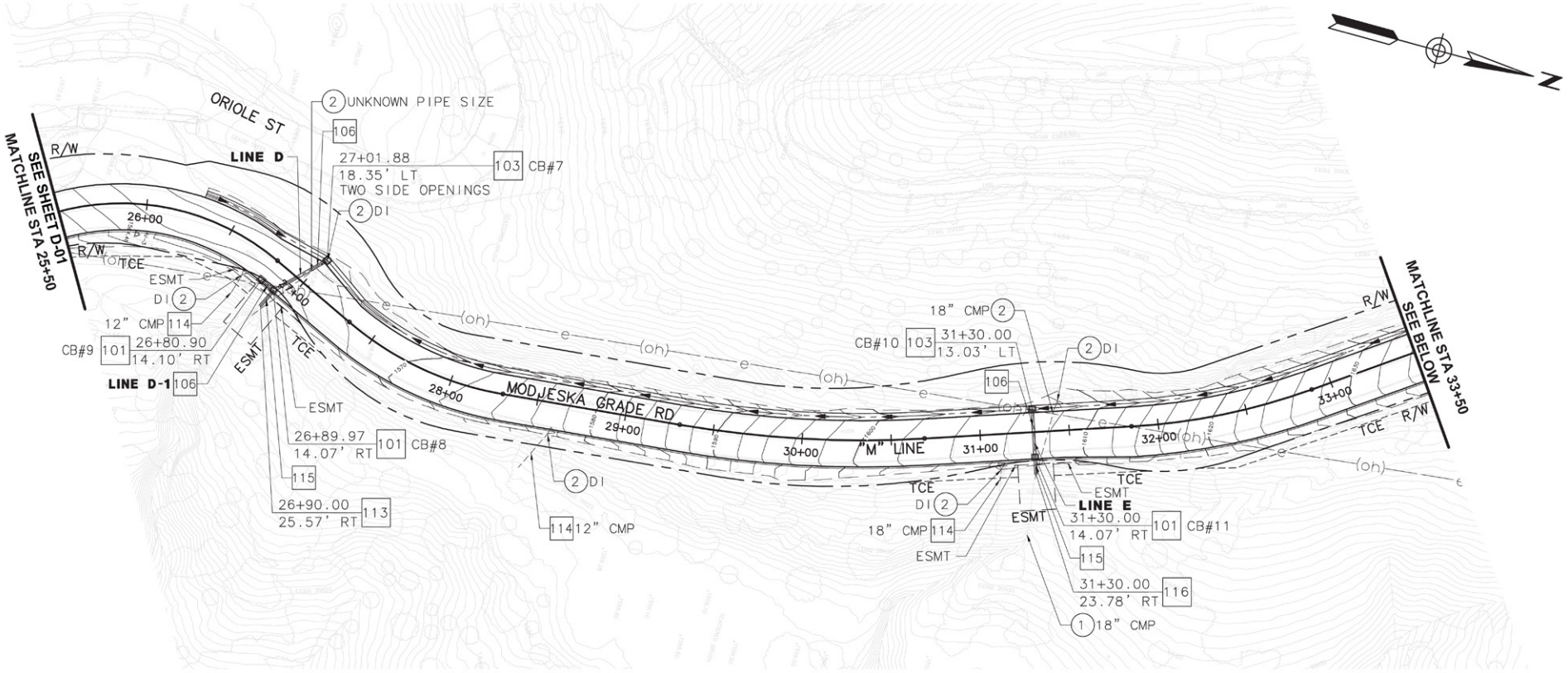
(2) REMOVE, PER PLAN

PLAN
1" = 40'

0 10 20 30 40 60 80 120 160

SHEET
D-02

Source: Mark Thomas, December 2023



PLAN
1" = 40'

0 20 40 80 160

CONSTRUCTION NOTES

101 CONSTRUCT INLET (TYPE GO) PER CALTRANS STD PLAN D72E AND D72F

102 CONSTRUCT NON-REINFORCED CONCRETE CONCENTRIC CONE MANHOLE PER OCPW STD PLAN 1501

103 CONSTRUCT INLET MODIFIED WITH SIDE OPENING PER DETAIL ON SHEET DD-01

106 INSTALL 18" RCP

113 CONSTRUCT OUTLET DISSIPATION

114 ABANDON PIPE

115 INSTALL 18" CMP

116 INSTALL 18" CMP COLLAR

DISPOSITION NOTES:

(1) PROTECT IN PLACE

(2) REMOVE, PER PLAN

SHEET

D-03

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 3

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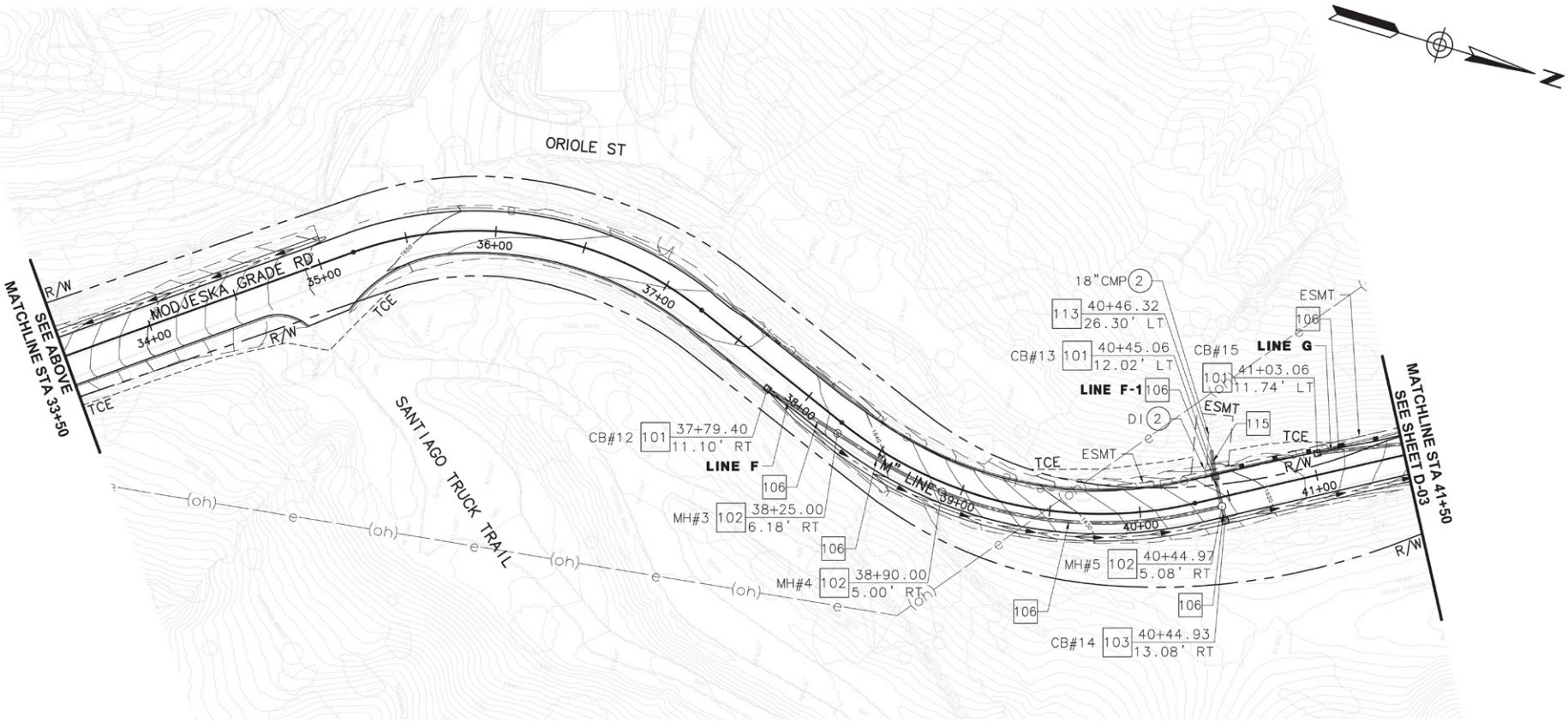
Exhibit 2-6c



CONSTRUCTION NOTES

101 CONSTRUCT INLET (TYPE GO) PER CALTRANS STD PLAN D72E AND D72F

102 CONSTRUCT NON-REINFORCED CONCRETE CONCENTRIC CONE MANHOLE PER OCPW STD PLAN 1501

103 CONSTRUCT INLET MODIFIED WITH SIDE OPENING PER DETAIL ON SHEET DD-01

106 INSTALL 18" RCP

113 CONSTRUCT OUTLET DISSIPATION

114 ABANDON PIPE

115 INSTALL 18" CMP

116 INSTALL 18" CMP COLLAR

DISPOSITION NOTES:

(1) PROTECT IN PLACE

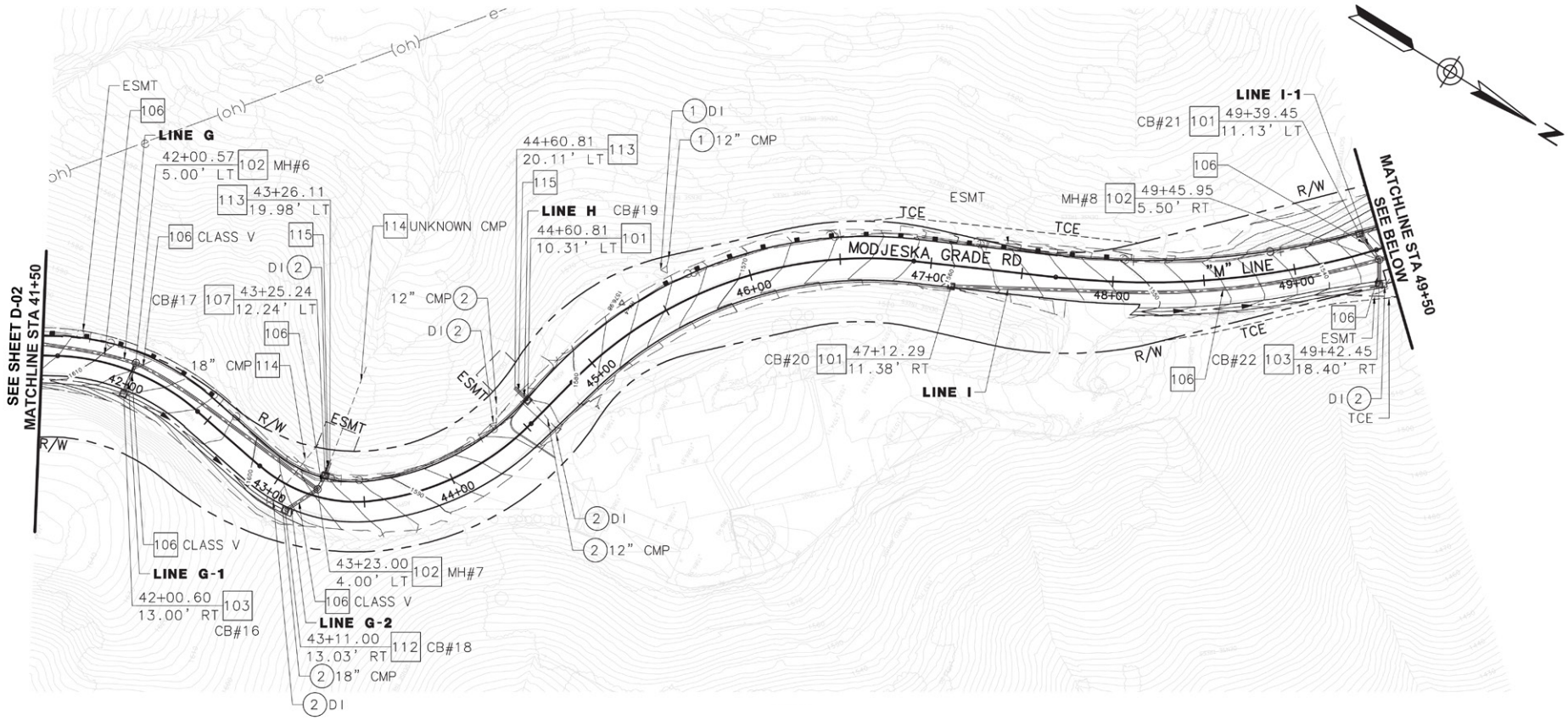
(2) REMOVE, PER PLAN

PLAN
1" = 40'

0 10 20 30 40 60 80 120 160

SHEET
D-04

Source: Mark Thomas, December 2023



CONSTRUCTION NOTES

101 CONSTRUCT INLET (TYPE GO) PER CALTRANS STD PLAN D72E AND D72F

102 CONSTRUCT NON-REINFORCED CONCRETE CONCENTRIC CONE MANHOLE PER OCPW STD PLAN 1501

103 CONSTRUCT INLET MODIFIED WITH SIDE OPENING PER DETAIL ON SHEET DD-01

106 INSTALL 18" RCP

107 CONSTRUCT TYPE I INLET PER OCPW STD PLAN 1301

112 CONSTRUCT GRATING CATCH BASIN - ALLEY (LONGITUDINAL) PER SPPWC STD PLAN 304-4

113 CONSTRUCT OUTLET DISSIPATION

114 ABANDON PIPE

115 INSTALL 18" CMP

DISPOSITION NOTES:

(1) PROTECT IN PLACE

(2) REMOVE, PER PLAN

PLAN
1" = 40'

0 20 40 80 160

SHEET
D-05

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 5

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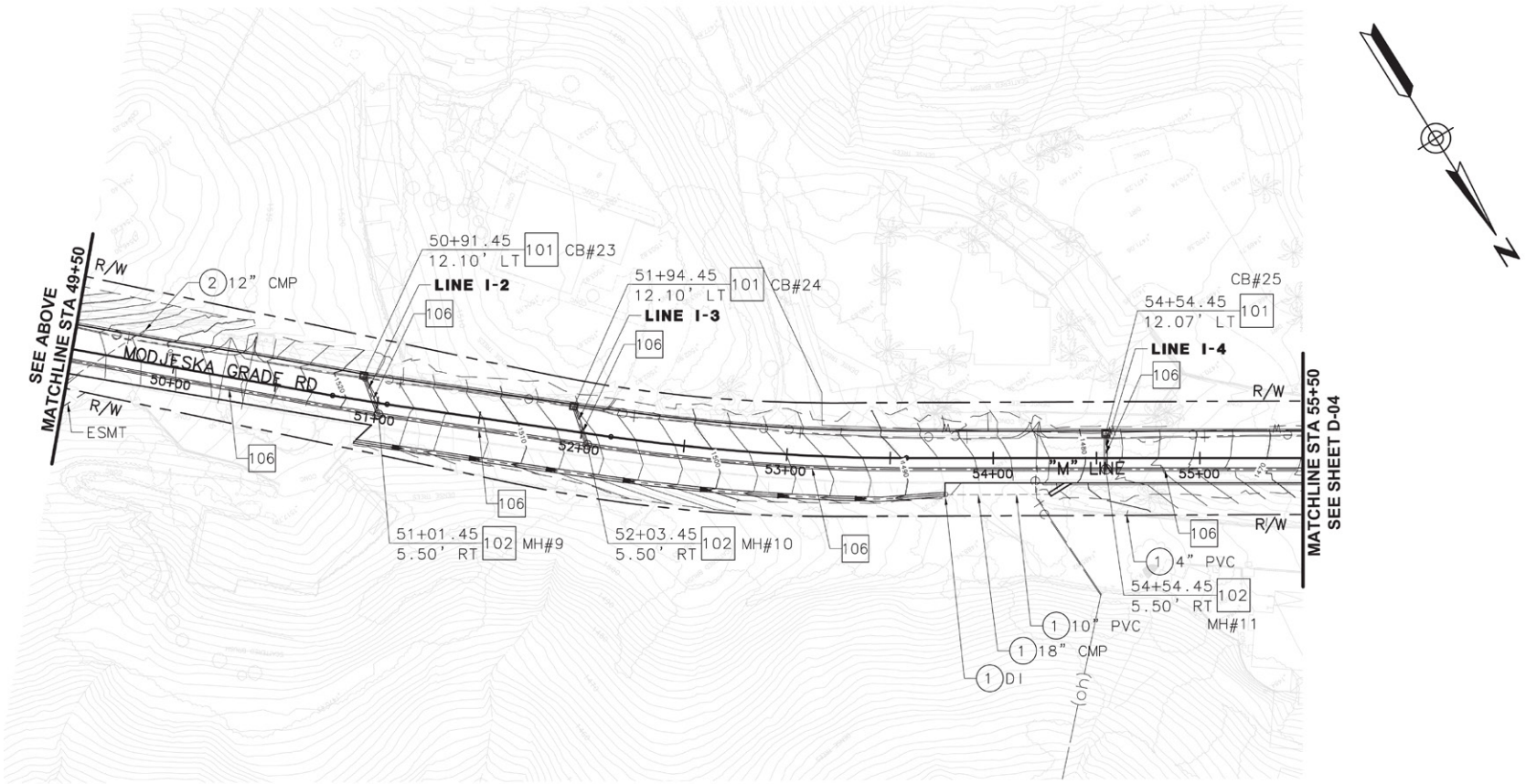
Exhibit 2-6e



CONSTRUCTION NOTES

101 CONSTRUCT INLET (TYPE GO) PER CALTRANS STD PLAN D72E AND D72F

102 CONSTRUCT NON-REINFORCED CONCRETE CONCENTRIC CONE MANHOLE PER OCPW STD PLAN 1501

103 CONSTRUCT INLET MODIFIED WITH SIDE OPENING PER DETAIL ON SHEET DD-01

106 INSTALL 18" RCP

107 CONSTRUCT TYPE I INLET PER OCPW STD PLAN 1301

112 CONSTRUCT GRATING CATCH BASIN – ALLEY (LONGITUDINAL) PER SPPWC STD PLAN 304-4

113 CONSTRUCT OUTLET DISSIPATION

114 ABANDON PIPE

115 INSTALL 18" CMP

DISPOSITION NOTES:

(1) PROTECT IN PLACE

(2) REMOVE, PER PLAN

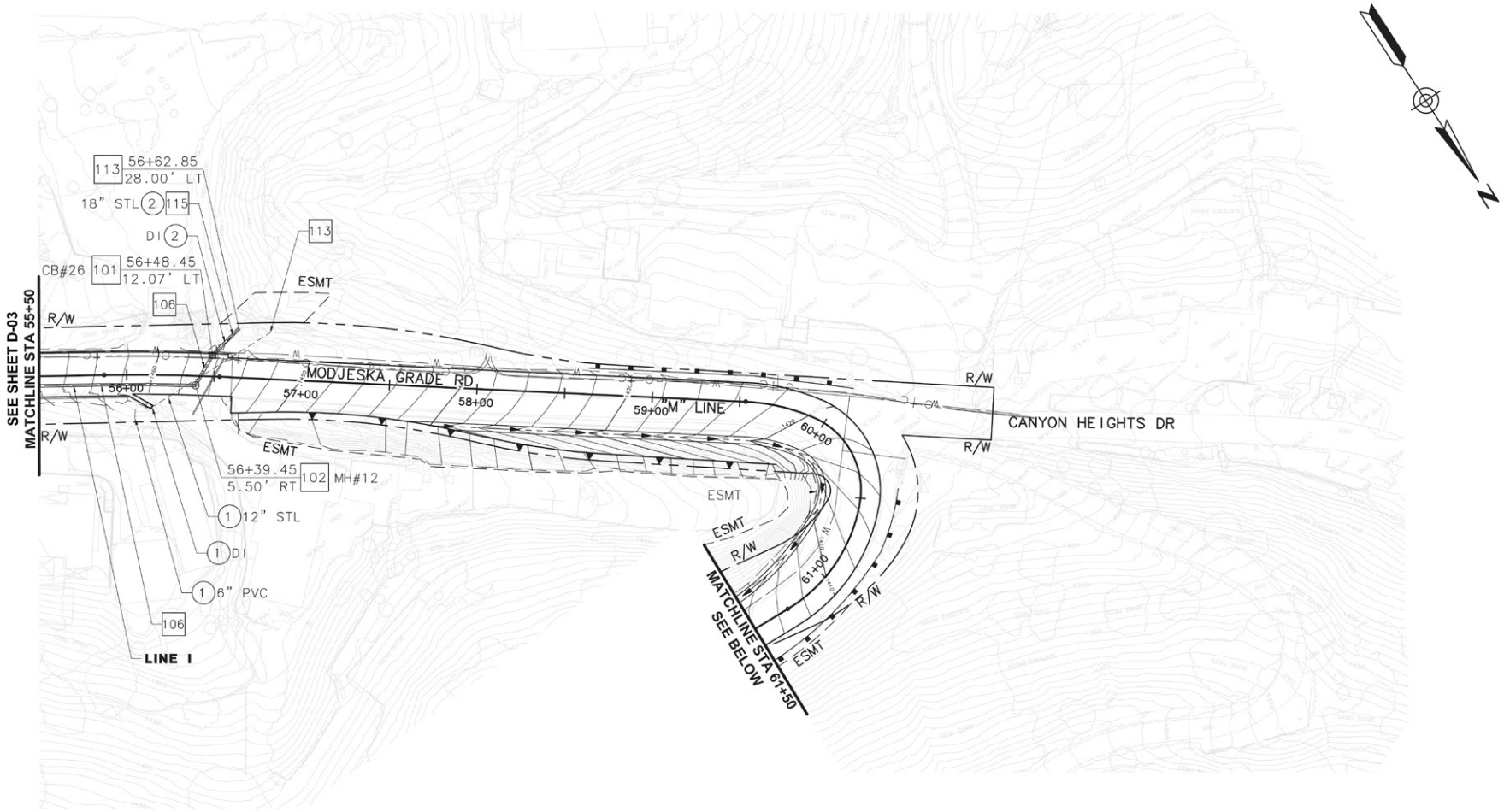
PLAN 1" = 40'

10 30 60 120
0 20 40 80 160

SHEET

D-06

Source: Mark Thomas, December 2023



CONSTRUCTION NOTES

101 CONSTRUCT INLET (TYPE GO) PER CALTRANS STD PLAN D72E AND D72F

102 CONSTRUCT NON-REINFORCED CONCRETE CONCENTRIC CONE MANHOLE PER OCPW STD PLAN 1501

103 CONSTRUCT INLET MODIFIED WITH SIDE OPENING PER DETAIL ON SHEET DD-01

106 INSTALL 18" RCP

113 CONSTRUCT OUTLET DISSIPATION

DISPOSITION NOTES:

(1) PROTECT IN PLACE

(2) REMOVE, PER PLAN

PLAN
1" = 40'

10 30 60 120
0 20 40 80 160

SHEET

D-07

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 7

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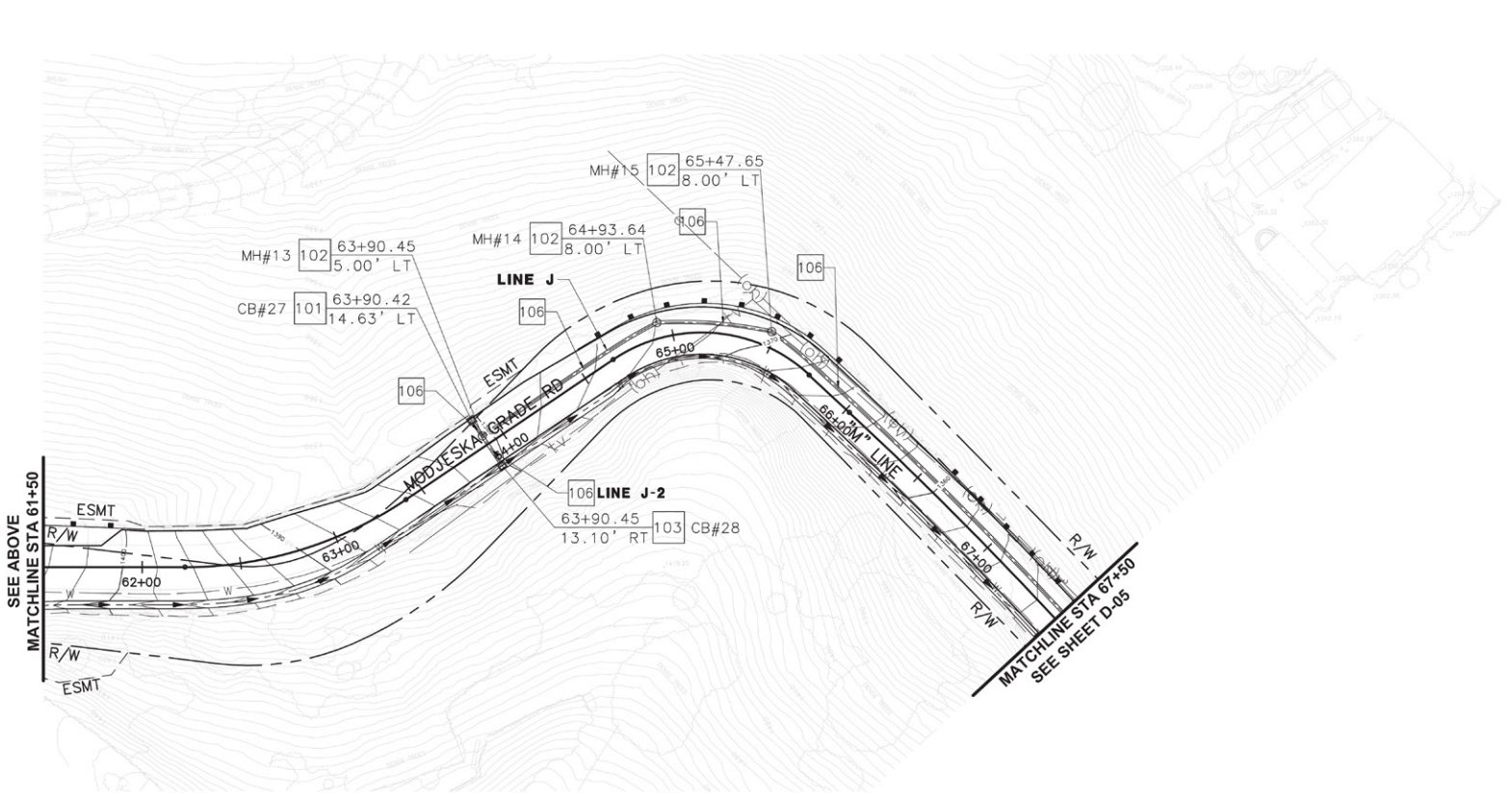
Exhibit 2-6g



CONSTRUCTION NOTES

101 CONSTRUCT INLET (TYPE GO) PER CALTRANS STD PLAN D72E AND D72F

102 CONSTRUCT NON-REINFORCED CONCRETE CONCENTRIC CONE MANHOLE PER OCPW STD PLAN 1501

103 CONSTRUCT INLET MODIFIED WITH SIDE OPENING PER DETAIL ON SHEET DD-01

106 INSTALL 18" RCP

113 CONSTRUCT OUTLET DISSIPATION

DISPOSITION NOTES:

(1) PROTECT IN PLACE

(2) REMOVE, PER PLAN

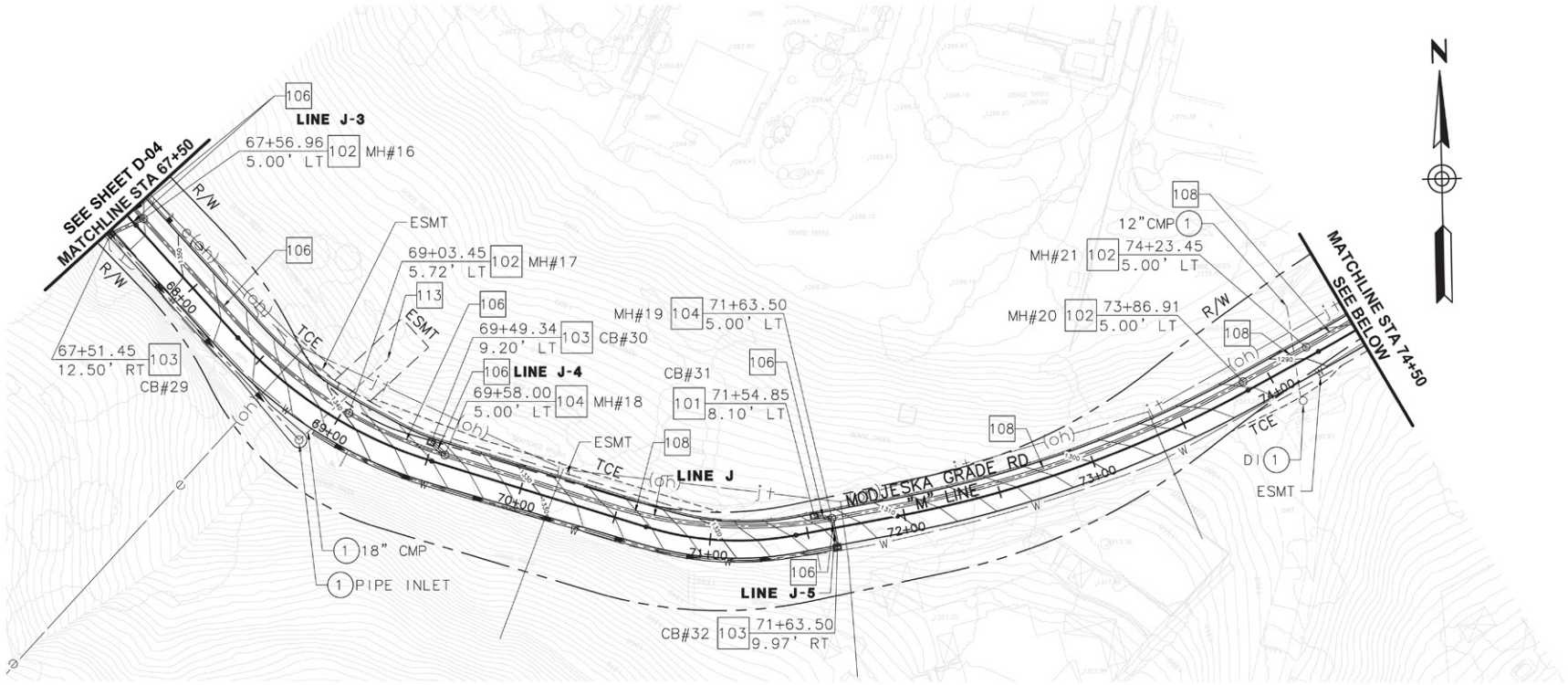
PLAN
1" = 40'

10 30 60 120
0 20 40 80 160

SHEET

D-08

Source: Mark Thomas, December 2023



CONSTRUCTION NOTES

101 CONSTRUCT INLET (TYPE GO) PER CALTRANS STD PLAN D72E AND D72F

102 CONSTRUCT NON-REINFORCED CONCRETE CONCENTRIC CONE MANHOLE PER OCPW STD PLAN 1501

103 CONSTRUCT INLET MODIFIED WITH SIDE OPENING PER DETAIL ON SHEET DD-01

104 CONSTRUCT MODIFIED CONCRETE CONCENTRIC CONE MANHOLE PER DETAIL ON SHEET DD-01

105 INSTALL 36" RCP

106 INSTALL 18" RCP

108 INSTALL 24" RCP

109 CONSTRUCT HEADWALL PER DETAIL ON SHEET DD-01

110 CONSTRUCT MODIFIED GO INLET PER DETAIL ON SHEET DD-01

111 CONSTRUCT RCB

113 CONSTRUCT OUTLET DISSIPATION

115 INSTALL 18" CMP

117 CONSTRUCT MODIFIED MANHOLE (SHALLOW) PER DETAIL ON SHEET DD-01

DISPOSITION NOTES:

(1) PROTECT IN PLACE

(2) REMOVE, PER PLAN

PLAN
1" = 40'

10 30 60 120
0 20 40 80 160

SHEET

D-09

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 9

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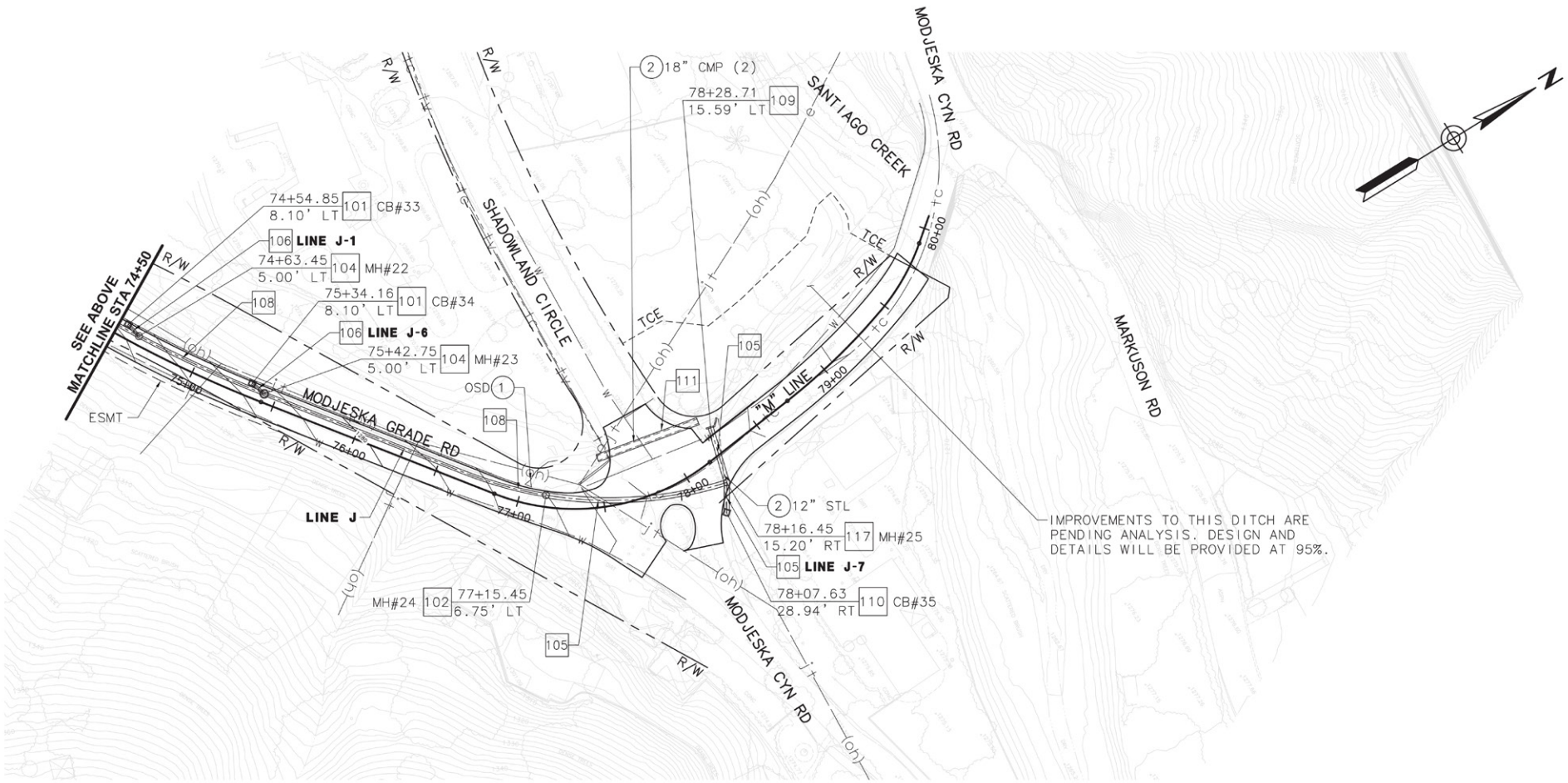
Exhibit 2-6i



CONSTRUCTION NOTES

101 CONSTRUCT INLET (TYPE GO) PER CALTRANS STD PLAN D72E AND D72F

102 CONSTRUCT NON-REINFORCED CONCRETE CONCENTRIC CONE MANHOLE PER OCPW STD PLAN 1501

103 CONSTRUCT INLET MODIFIED WITH SIDE OPENING PER DETAIL ON SHEET DD-01

104 CONSTRUCT MODIFIED CONCRETE CONCENTRIC CONE MANHOLE PER DETAIL ON SHEET DD-01

105 INSTALL 36" RCP

106 INSTALL 18" RCP

108 INSTALL 24" RCP

109 CONSTRUCT HEADWALL PER DETAIL ON SHEET DD-01

110 CONSTRUCT MODIFIED GO INLET PER DETAIL ON SHEET DD-01

111 CONSTRUCT RCB

113 CONSTRUCT OUTLET DISSIPATION

115 INSTALL 18" CMP

117 CONSTRUCT MODIFIED MANHOLE (SHALLOW) PER DETAIL ON SHEET DD-01

DISPOSITION NOTES:

(1) PROTECT IN PLACE

(2) REMOVE, PER PLAN

PLAN
1" = 40'

10 30 60 120
0 20 40 80 160

SHEET
D-10

Source: Mark Thomas, December 2023

Plan Sheet 10

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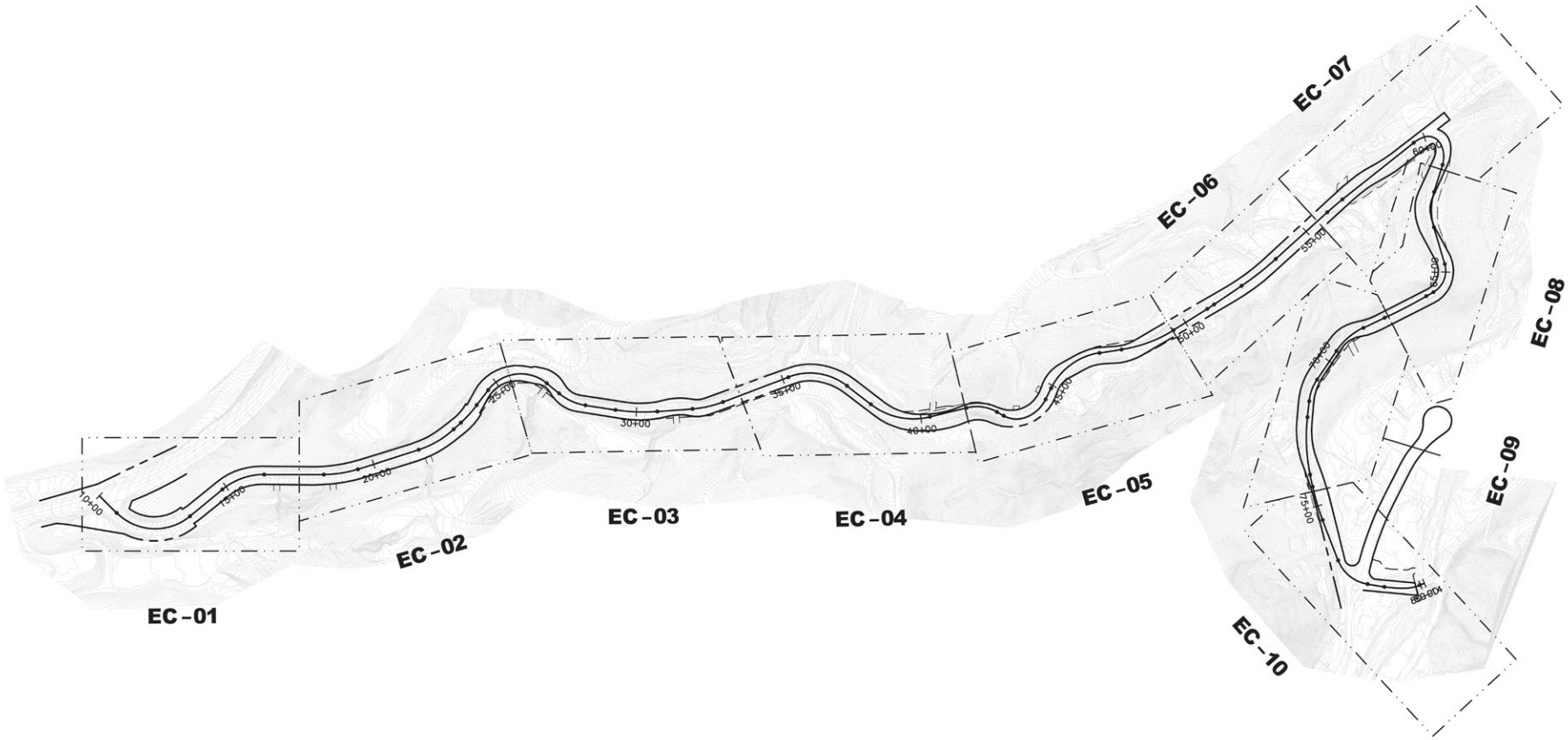
Exhibit 2-6j



Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Conceptual Erosion Control Plan Key Map

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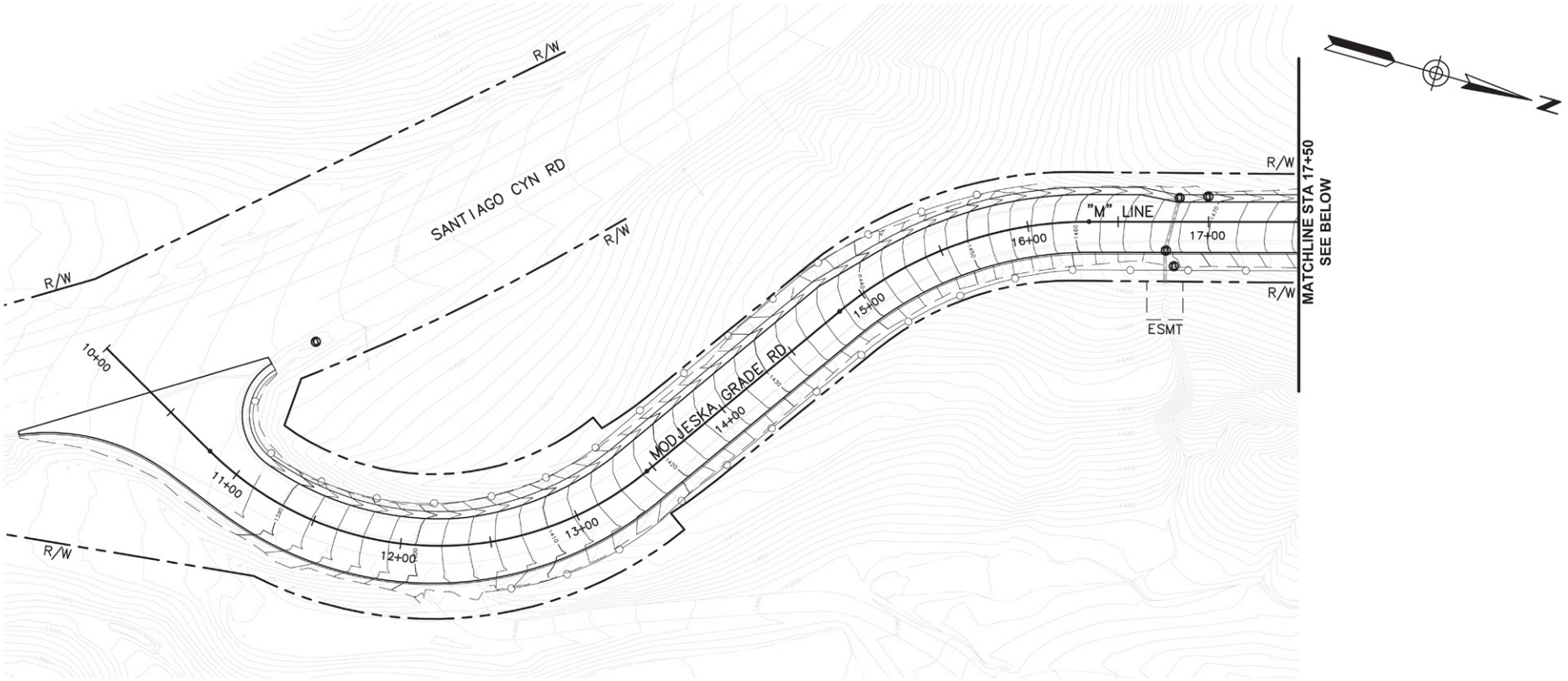
Exhibit 2-7



NOTE:
INSTALL TEMPORARY EROSION CONTROL FACILITIES DURING CONSTRUCTION ONLY. REMOVE WHEN NO LONGER NEEDED.

TEMPORARY EROSION CONTROL LEGEND

- TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B) GRAVEL BAG BERM, PER CALTRANS STD PLAN T62, LOCATION PER PLAN
- TEMPORARY SEDIMENT BARRIER

PERMANENT EROSION CONTROL LEGEND

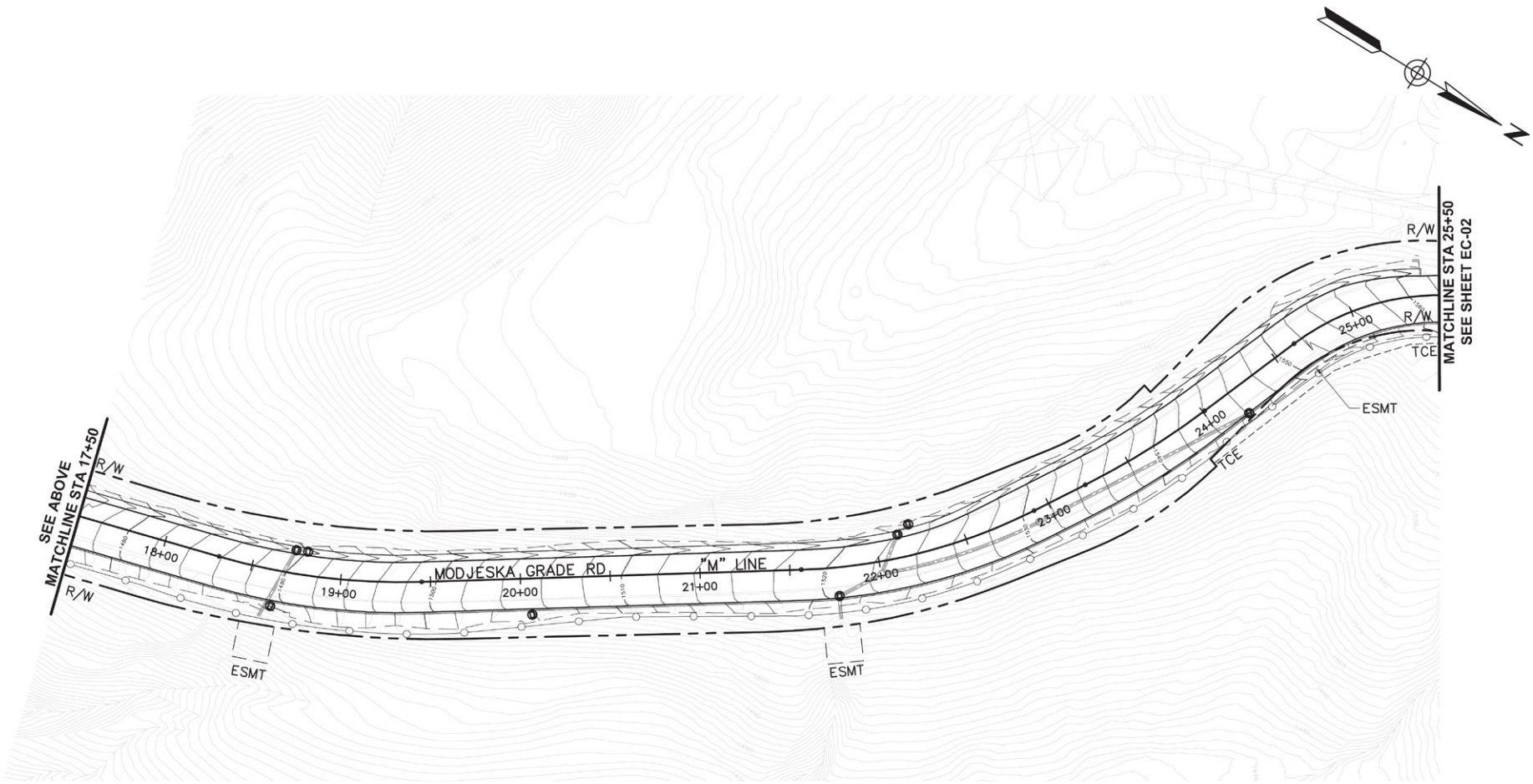
- HYDROSEED
- OPEN WEAVE TEXTILE AND HYDROSEED PER CALTRANS STANDARD PLAN H52
- TURF REINFORCEMENT MAT AND HYDROSEED DETAIL TO BE SHOWN IN THE NEXT SUBMITTAL
- TBD PERMANENT FIBER ROLLS, PER CALTRANS STANDARD PLAN H51 (TYPE 1), TO BE SHOWN IN THE NEXT SUBMITTAL

PLAN
1" = 40'

10 30 60 120
0 20 40 80 160

SHEET
EC-01

Source: Mark Thomas, December 2023



NOTE:
INSTALL TEMPORARY EROSION CONTROL FACILITIES DURING CONSTRUCTION ONLY. REMOVE WHEN NO LONGER NEEDED.

TEMPORARY EROSION CONTROL LEGEND

- TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B) GRAVEL BAG BERM, PER CALTRANS STD PLAN T62, LOCATION PER PLAN
- TEMPORARY SEDIMENT BARRIER

PERMANENT EROSION CONTROL LEGEND

- HYDROSEED
- OPEN WEAVE TEXTILE AND HYDROSEED PER CALTRANS STANDARD PLAN H52
- TURF REINFORCEMENT MAT AND HYDROSEED DETAIL TO BE SHOWN IN THE NEXT SUBMITTAL
- TBD PERMANENT FIBER ROLLS, PER CALTRANS STANDARD PLAN H51 (TYPE 1), TO BE SHOWN IN THE NEXT SUBMITTAL

PLAN
1" = 40'

0 10 20 30 40 60 80 120 160

SHEET
EC-02

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 2

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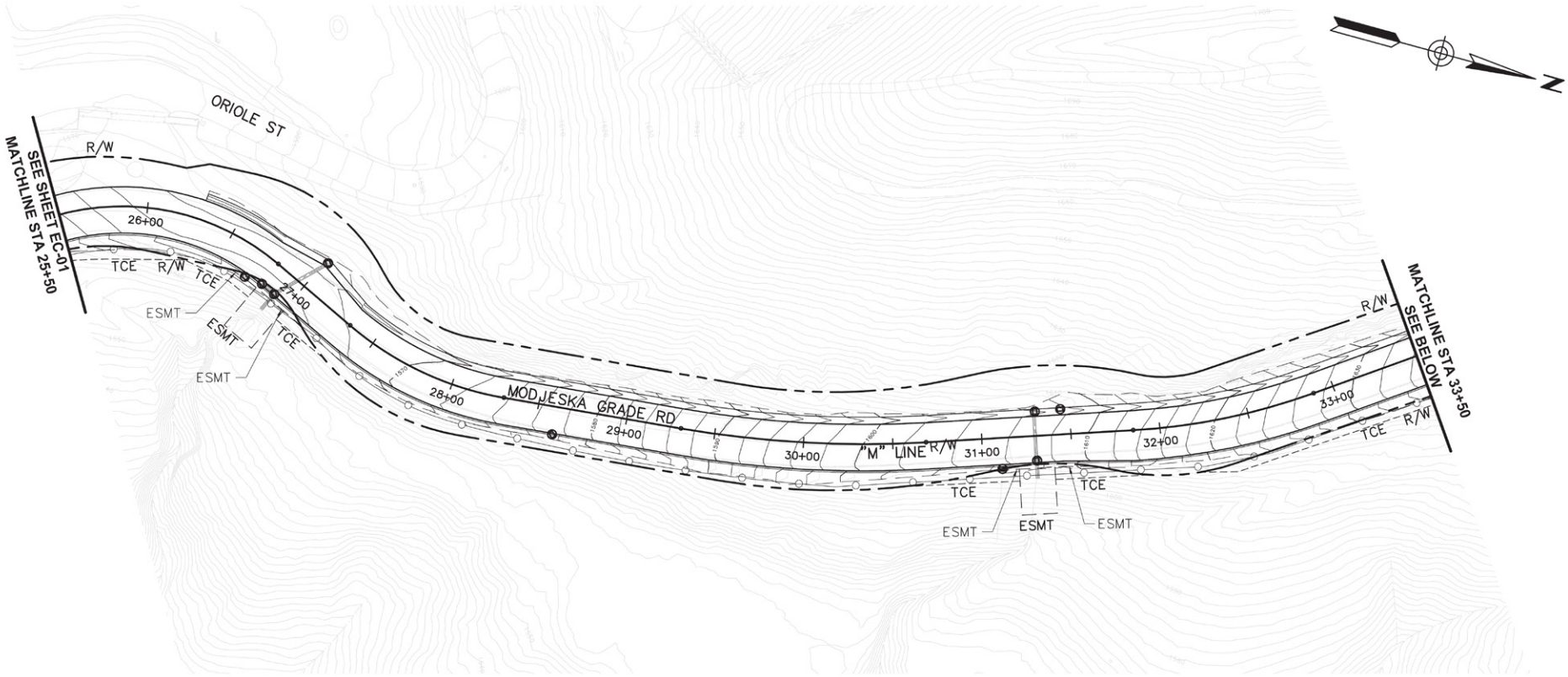
Exhibit 2-7b



NOTE:
INSTALL TEMPORARY EROSION CONTROL FACILITIES DURING CONSTRUCTION ONLY. REMOVE WHEN NO LONGER NEEDED.

TEMPORARY EROSION CONTROL LEGEND

- TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B) GRAVEL BAG BERM, PER CALTRANS STD PLAN T62, LOCATION PER PLAN
- TEMPORARY SEDIMENT BARRIER

PERMANENT EROSION CONTROL LEGEND

- HYDROSEED
- OPEN WEAVE TEXTILE AND HYDROSEED PER CALTRANS STANDARD PLAN H52
- TURF REINFORCEMENT MAT AND HYDROSEED DETAIL TO BE SHOWN IN THE NEXT SUBMITTAL
- TBD PERMANENT FIBER ROLLS, PER CALTRANS STANDARD PLAN H51 (TYPE 1), TO BE SHOWN IN THE NEXT SUBMITTAL

PLAN
1" = 40'

0 10 20 30 40 60 80 120 160

SHEET
EC-03

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 3

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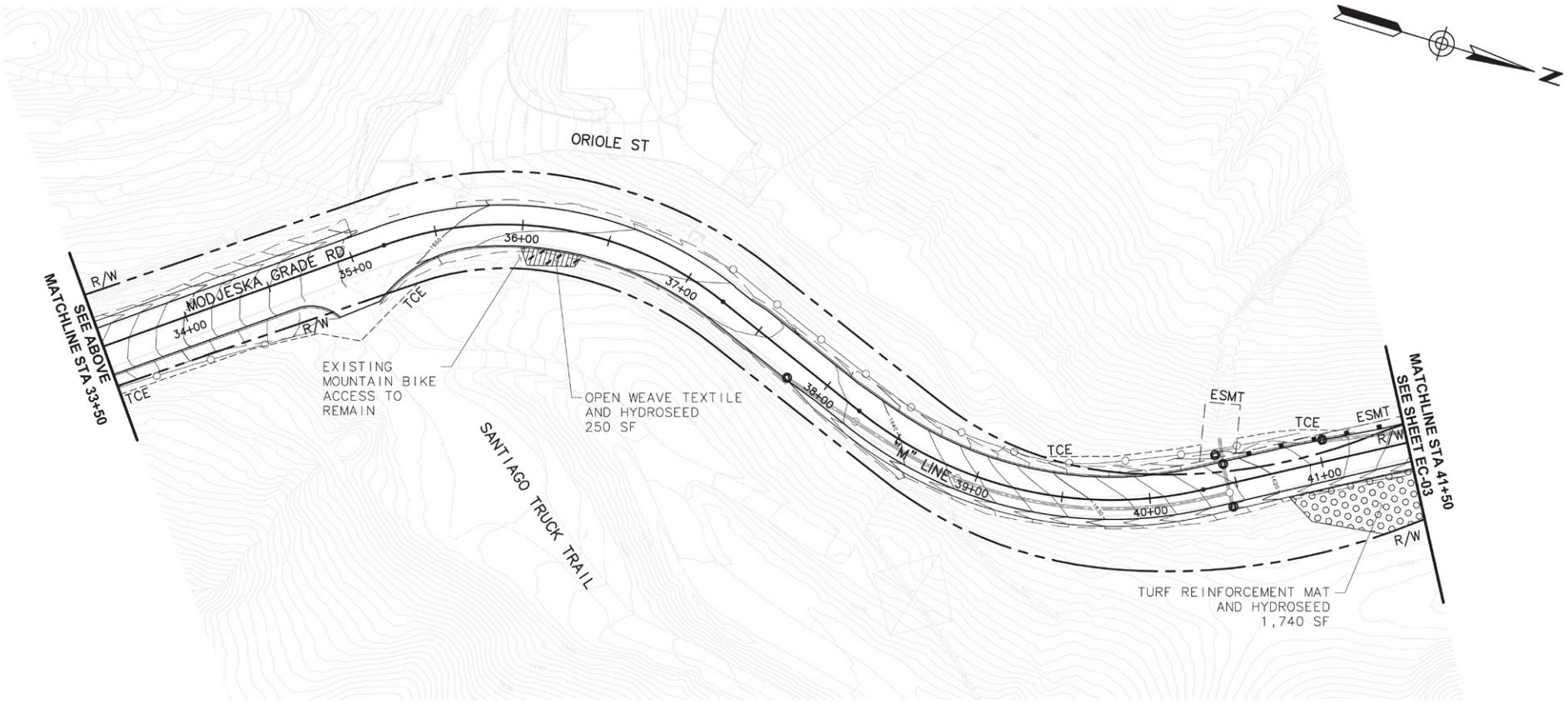
Exhibit 2-7c



NOTE:
INSTALL TEMPORARY EROSION CONTROL FACILITIES DURING CONSTRUCTION ONLY. REMOVE WHEN NO LONGER NEEDED.

TEMPORARY EROSION CONTROL LEGEND

- TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B) GRAVEL BAG BERM, PER CALTRANS STD PLAN T62, LOCATION PER PLAN
- TEMPORARY SEDIMENT BARRIER

PERMANENT EROSION CONTROL LEGEND

- HYDROSEED
- OPEN WEAVE TEXTILE AND HYDROSEED PER CALTRANS STANDARD PLAN H52
- TURF REINFORCEMENT MAT AND HYDROSEED DETAIL TO BE SHOWN IN THE NEXT SUBMITTAL
- TBD — PERMANENT FIBER ROLLS, PER CALTRANS STANDARD PLAN H51 (TYPE 1), TO BE SHOWN IN THE NEXT SUBMITTAL

PLAN
1" = 40'

0 20 40 80 160
10 30 60 120

SHEET
EC-04

Source: Mark Thomas, December 2023

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 4

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Exhibit 2-7d

NOTE:
INSTALL TEMPORARY EROSION CONTROL FACILITIES DURING CONSTRUCTION ONLY. REMOVE WHEN NO LONGER NEEDED.

TEMPORARY EROSION CONTROL LEGEND

- TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B) GRAVEL BAG BERM, PER CALTRANS STD PLAN T62, LOCATION PER PLAN
- TEMPORARY SEDIMENT BARRIER

PERMANENT EROSION CONTROL LEGEND

- HYDROSEED
- OPEN WEAVE TEXTILE AND HYDROSEED PER CALTRANS STANDARD PLAN H52
- TURF REINFORCEMENT MAT AND HYDROSEED DETAIL TO BE SHOWN IN THE NEXT SUBMITTAL
- TBD — PERMANENT FIBER ROLLS, PER CALTRANS STANDARD PLAN H51 (TYPE 1), TO BE SHOWN IN THE NEXT SUBMITTAL

PLAN
1" = 40'

10 30 60 120
0 20 40 80 160

SHEET
EC-05

Source: Mark Thomas, December 2023

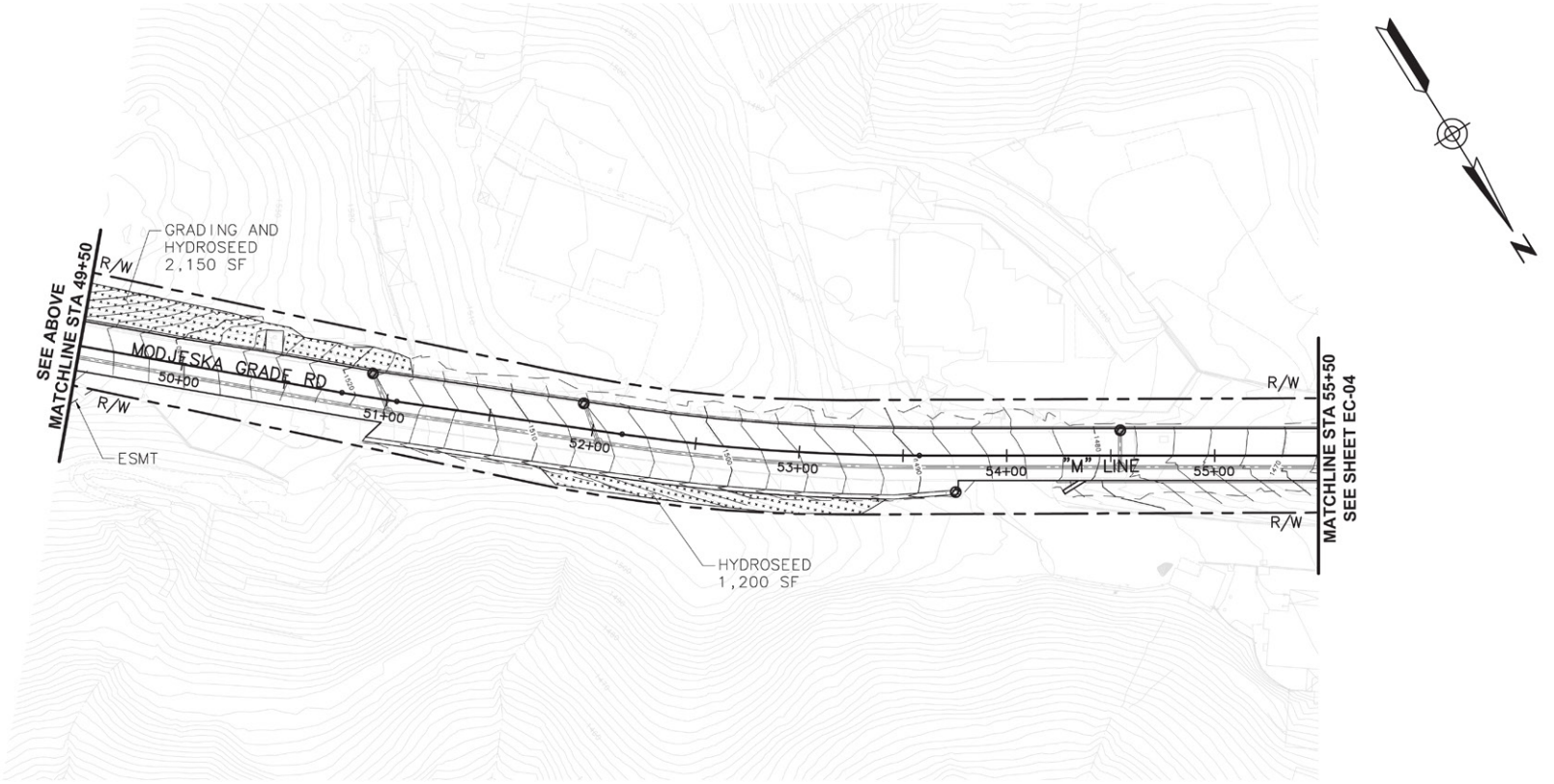
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 5

Michael Baker INTERNATIONAL

04/2024 • JN 189853

Exhibit 2-7e



NOTE:
INSTALL TEMPORARY EROSION CONTROL FACILITIES DURING CONSTRUCTION ONLY. REMOVE WHEN NO LONGER NEEDED.

TEMPORARY EROSION CONTROL LEGEND

- TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B) GRAVEL BAG BERM, PER CALTRANS STD PLAN T62, LOCATION PER PLAN
- TEMPORARY SEDIMENT BARRIER

PERMANENT EROSION CONTROL LEGEND

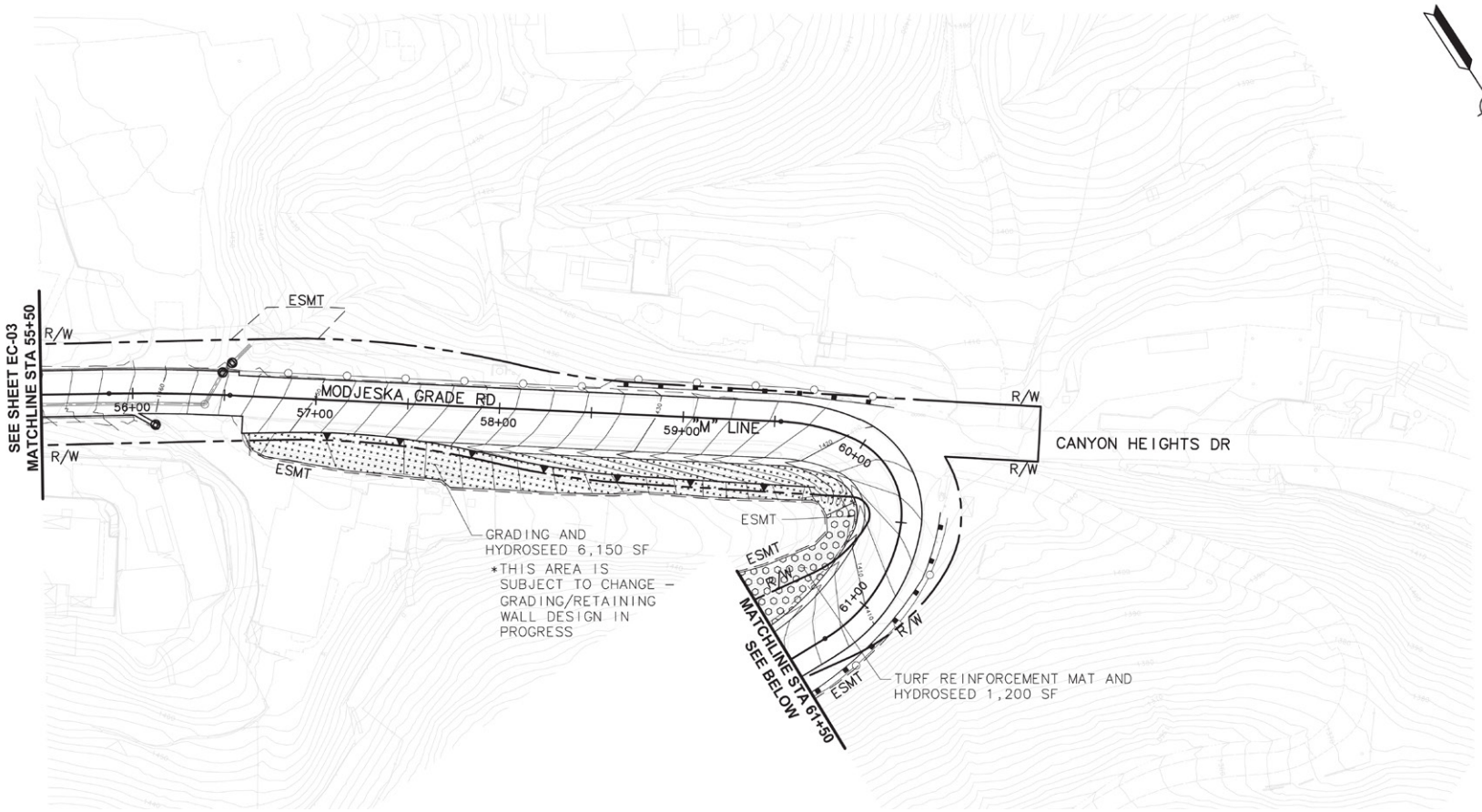
- HYDROSEED
- OPEN WEAVE TEXTILE AND HYDROSEED PER CALTRANS STANDARD PLAN H52
- TURF REINFORCEMENT MAT AND HYDROSEED DETAIL TO BE SHOWN IN THE NEXT SUBMITTAL
- TBD PERMANENT FIBER ROLLS, PER CALTRANS STANDARD PLAN H51 (TYPE 1), TO BE SHOWN IN THE NEXT SUBMITTAL

PLAN
1" = 40'

10 30 60 120
0 20 40 80 160

SHEET
EC-06

Source: Mark Thomas, December 2023



NOTE:
INSTALL TEMPORARY EROSION CONTROL FACILITIES DURING CONSTRUCTION ONLY. REMOVE WHEN NO LONGER NEEDED.

TEMPORARY EROSION CONTROL LEGEND

- TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B) GRAVEL BAG BERM, PER CALTRANS STD PLAN T62, LOCATION PER PLAN
- TEMPORARY SEDIMENT BARRIER

PERMANENT EROSION CONTROL LEGEND

- HYDROSEED
- OPEN WEAVE TEXTILE AND HYDROSEED PER CALTRANS STANDARD PLAN H52
- TURF REINFORCEMENT MAT AND HYDROSEED DETAIL TO BE SHOWN IN THE NEXT SUBMITTAL
- TBD — PERMANENT FIBER ROLLS, PER CALTRANS STANDARD PLAN H51 (TYPE 1), TO BE SHOWN IN THE NEXT SUBMITTAL

PLAN
1" = 40'
0 10 20 30 40 60 80 120 160

SHEET
EC-07

Source: Mark Thomas, December 2023

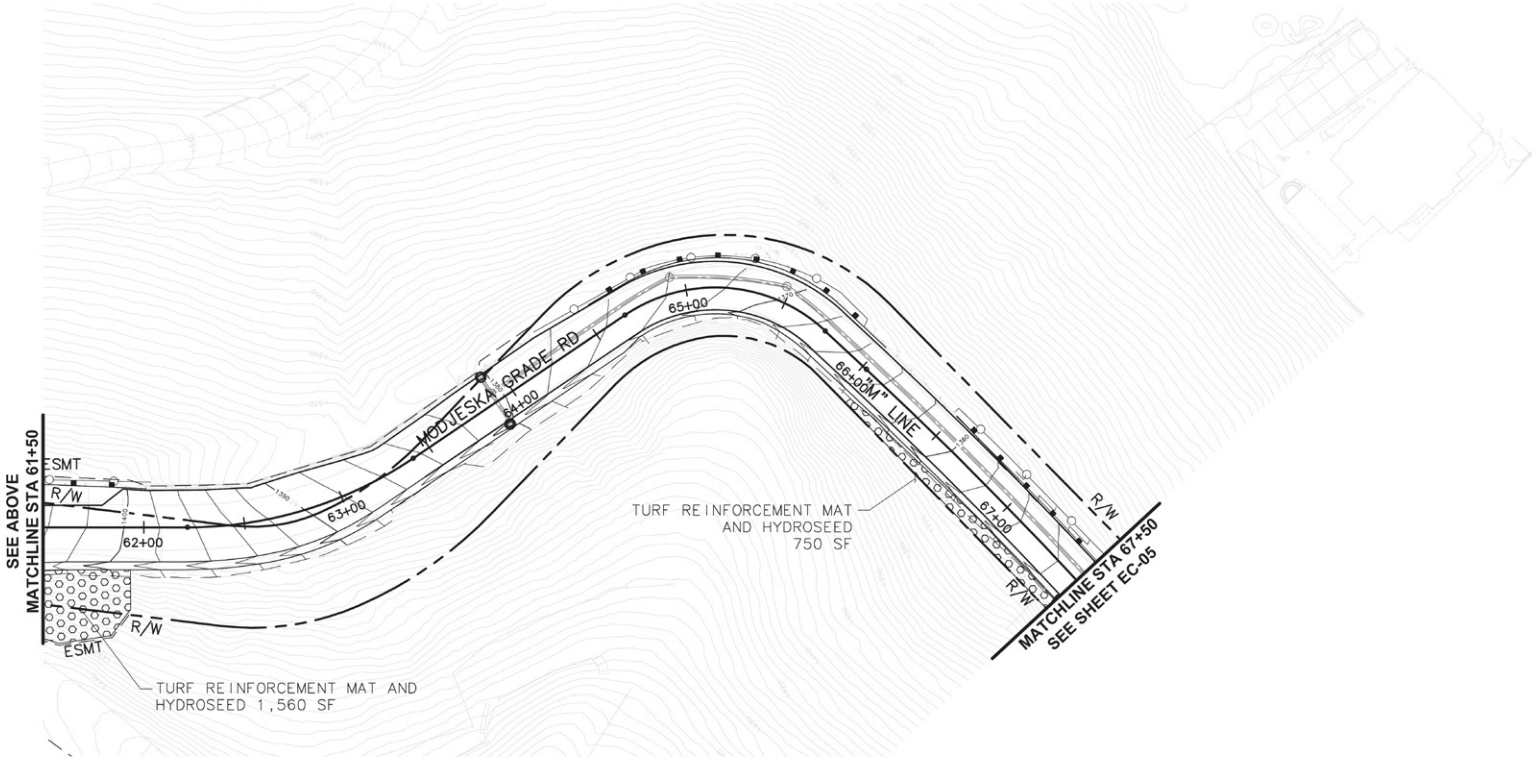
MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Plan Sheet 7

Michael Baker INTERNATIONAL

04/2024 • JN 189853

Exhibit 2-7g



NOTE:
INSTALL TEMPORARY EROSION CONTROL FACILITIES DURING CONSTRUCTION ONLY. REMOVE WHEN NO LONGER NEEDED.

TEMPORARY EROSION CONTROL LEGEND

- TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B) GRAVEL BAG BERM, PER CALTRANS STD PLAN T62, LOCATION PER PLAN
- TEMPORARY SEDIMENT BARRIER

PERMANENT EROSION CONTROL LEGEND

- HYDROSEED
- OPEN WEAVE TEXTILE AND HYDROSEED PER CALTRANS STANDARD PLAN H52
- TURF REINFORCEMENT MAT AND HYDROSEED DETAIL TO BE SHOWN IN THE NEXT SUBMITTAL
- TBD — PERMANENT FIBER ROLLS, PER CALTRANS STANDARD PLAN H51 (TYPE 1), TO BE SHOWN IN THE NEXT SUBMITTAL

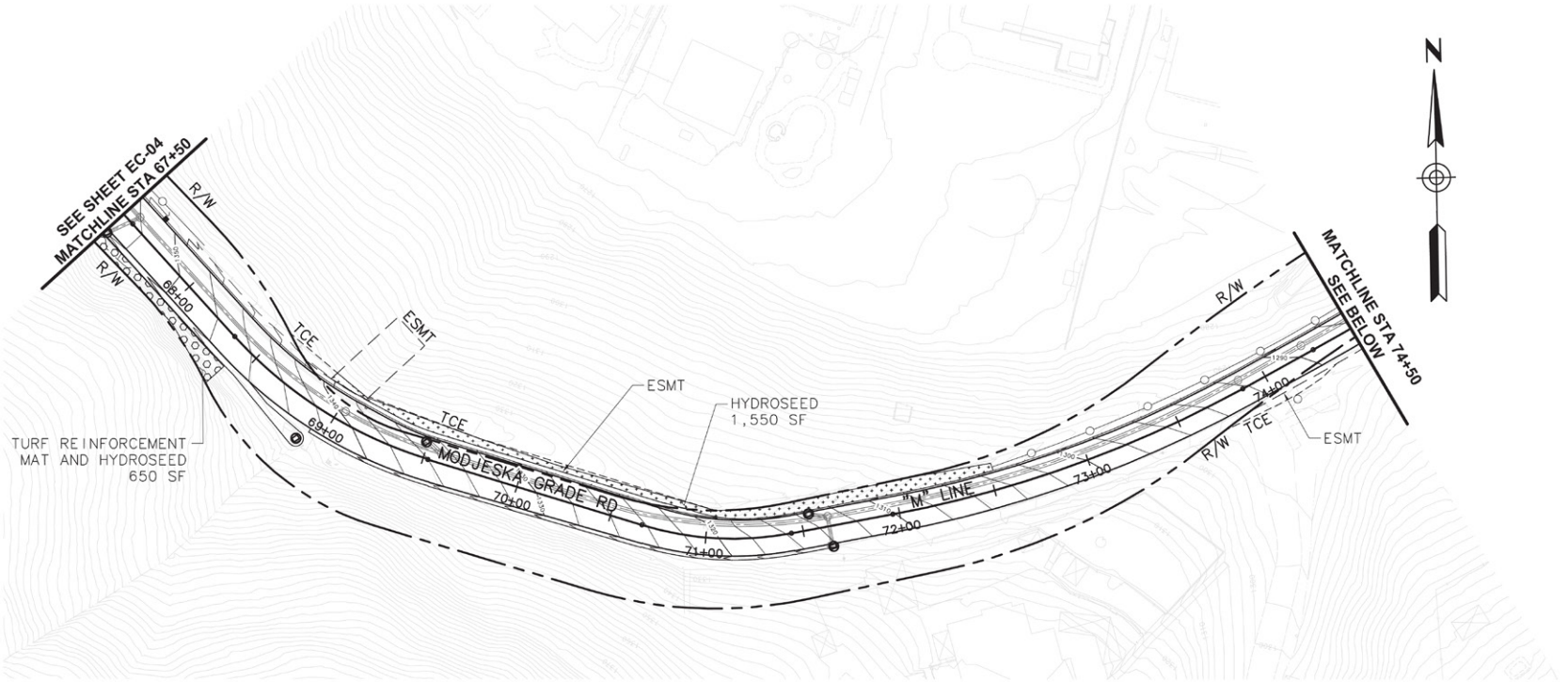
PLAN
1" = 40'
0 20 40 80 160
10 30 60 120

SHEET
EC-08

Source: Mark Thomas, December 2023

Michael Baker INTERNATIONAL

04/2024 • JN 189853



NOTE:
INSTALL TEMPORARY EROSION CONTROL FACILITIES DURING CONSTRUCTION ONLY. REMOVE WHEN NO LONGER NEEDED.

TEMPORARY EROSION CONTROL LEGEND

- TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B) GRAVEL BAG BERM, PER CALTRANS STD PLAN T62, LOCATION PER PLAN
- TEMPORARY SEDIMENT BARRIER

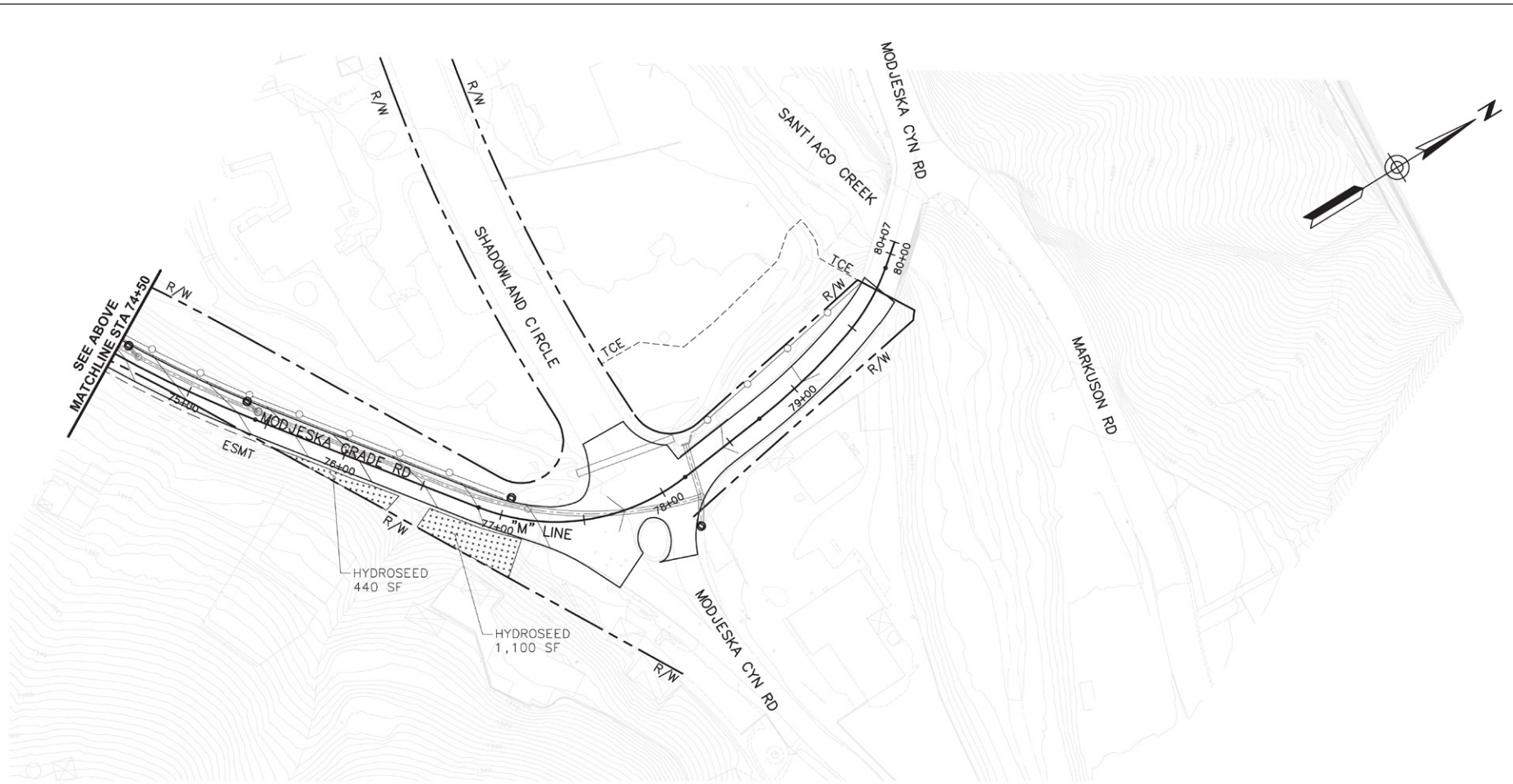
PERMANENT EROSION CONTROL LEGEND

- HYDROSEED
- OPEN WEAVE TEXTILE AND HYDROSEED PER CALTRANS STANDARD PLAN H52
- TURF REINFORCEMENT MAT AND HYDROSEED DETAIL TO BE SHOWN IN THE NEXT SUBMITTAL
- TBD — PERMANENT FIBER ROLLS, PER CALTRANS STANDARD PLAN H51 (TYPE 1), TO BE SHOWN IN THE NEXT SUBMITTAL

PLAN
1" = 40'
0 10 20 30 40 60 80 120 160

SHEET
EC-09

Source: Mark Thomas, December 2023



NOTE:
INSTALL TEMPORARY EROSION CONTROL FACILITIES DURING CONSTRUCTION ONLY. REMOVE WHEN NO LONGER NEEDED.

TEMPORARY EROSION CONTROL LEGEND

- TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B) GRAVEL BAG BERM, PER CALTRANS STD PLAN T62, LOCATION PER PLAN
- TEMPORARY SEDIMENT BARRIER

PERMANENT EROSION CONTROL LEGEND

- HYDROSEED
- OPEN WEAVE TEXTILE AND HYDROSEED PER CALTRANS STANDARD PLAN H52
- TURF REINFORCEMENT MAT AND HYDROSEED DETAIL TO BE SHOWN IN THE NEXT SUBMITTAL
- TBD PERMANENT FIBER ROLLS, PER CALTRANS STANDARD PLAN H51 (TYPE 1), TO BE SHOWN IN THE NEXT SUBMITTAL

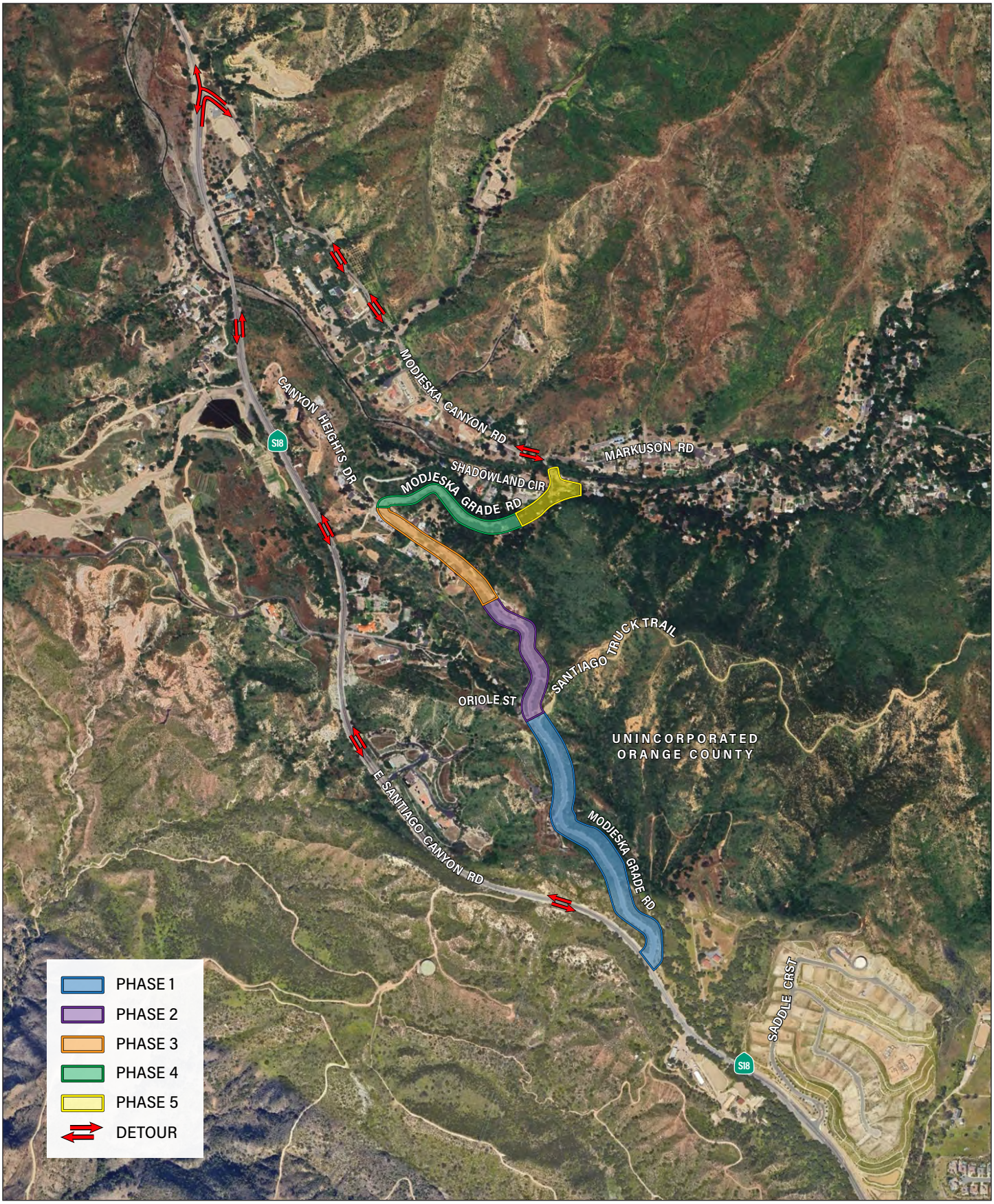
PLAN
1" = 40'

10 30 80 120
0 20 40 80 160

SHEET

EC-10

Source: Mark Thomas, December 2023



Source: Google Earth Pro, June 2024

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

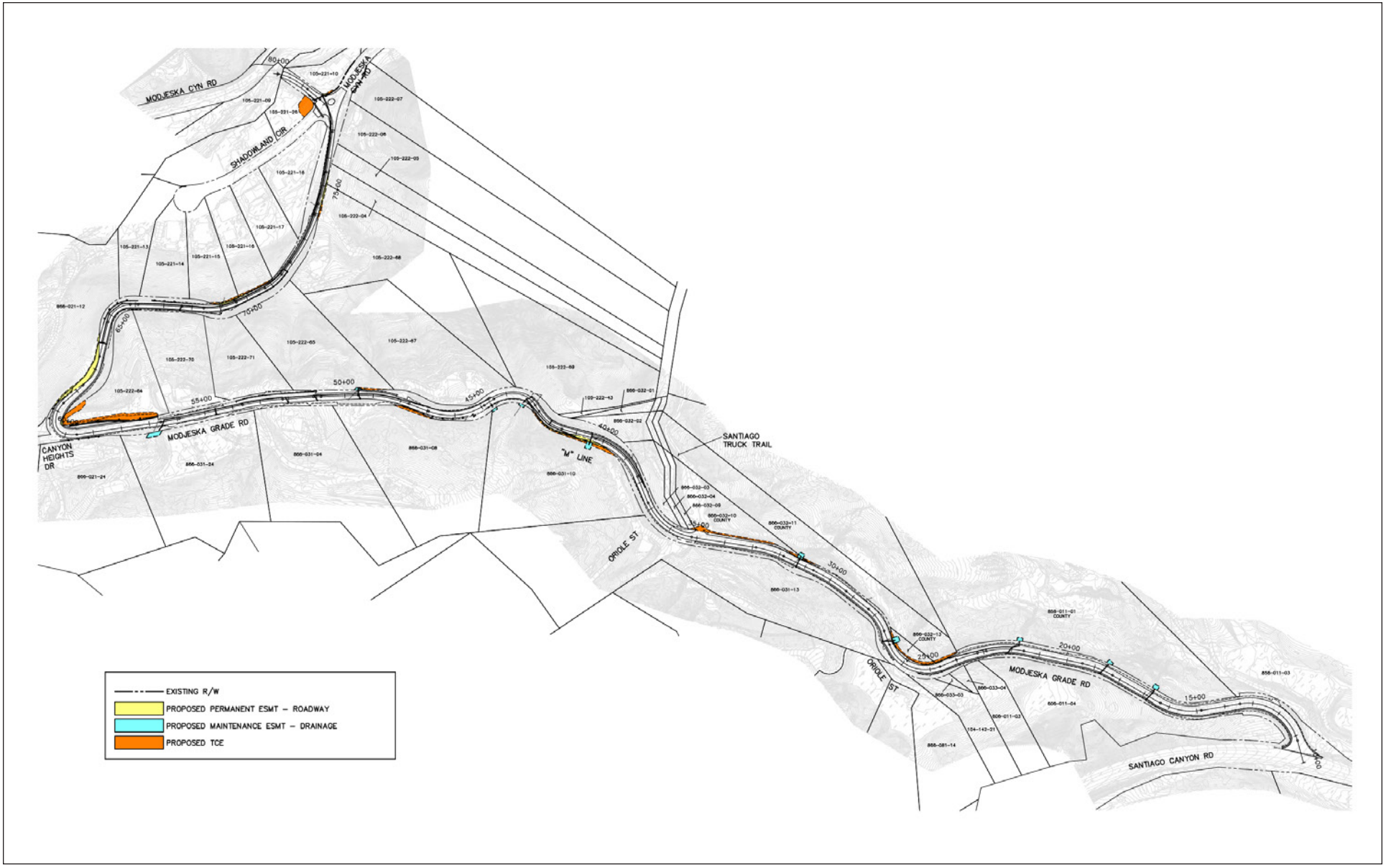
Conceptual Construction Phasing and Detour

Michael Baker INTERNATIONAL

NOT TO SCALE

06/2024 • JN 189853

Exhibit 2-8



Source: Mark Thomas, June 2024

Michael Baker INTERNATIONAL

NOT TO SCALE

06/2024 • JN 189853

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Proposed Easement Acquisition Areas

Exhibit 2-9

3.0 INITIAL STUDY CHECKLIST

3.1 Background

1.	**Project Title:** Modjeska Grade Road, Road and Drainage Improvements
2.	**Lead Agency Name and Address:** County of Orange 601 North Ross Street Santa Ana, California 92701
3.	**Contact Person and Phone Number:** Dhanusha Arullendran, Civil Engineer 714.647.3907 Dhanusha.arullendran@ocpw.ocgov.com
4.	**Project Location:** The Project site is located within the eastern portion of unincorporated Orange County, California in Modjeska Canyon, approximately 2.2 miles north of State Route 241. Modjeska Canyon is situated within the greater Santa Ana Mountains. Specifically, the Project limits extend along a 1.3-mile segment of Modjeska Grade Road from 100 feet south of the Markuson Road/Modjeska Canyon Road intersection to the East Santiago Canyon Road (also referred to as County Road S18)/Modjeska Grade Road intersection.
5.	**Project Sponsor's Name and Address:** County of Orange 601 North Ross Street Santa Ana, California 92701

6.	**General Plan Designation:** As an existing roadway facility, the Project site does not have a land use designation. Based on the County of Orange General Plan, *Land Use Element Map* and City of Lake Forest General Plan, Figure LU-1, *Land Use Map*, the land uses surrounding the Project site have the following General Plan land use designations:
	
	• *Unincorporated Orange County*
	  ○ North: Rural Residential (1A) and Suburban Residential (1B);
	  ○ East: Rural Residential (1A);
	  ○ West: Rural Residential (1A); and
	• *City of Lake Forest*
	  ○ South: Regional Park/Open Space (Whiting Ranch Wilderness Park).

7.	**Zoning:** As an existing roadway facility, the Project site does not have a zoning designation. Based on the OC Public Works, *Land Use Records* and City of Lake Forest, *Zoning Map*, the surrounding land uses of the Project site are zoned the following: • *Unincorporated Orange County*

	○ North: General Agricultural with a Sign Restriction Combining District (A1 [SR]), Silverado-Modjeska Specific Plan District, and Estates with a Sign Restriction Combining District (E1 [SR]); ○ East: Residential Hillside Estates with a Sign Restriction Combining District (RHE [SR]), General Agricultural with a Sign Restriction Combining District (A1 [SR]), Silverado-Modjeska Specific Plan District, and Foothill/Trabuco Specific Plan Combining District (S); ○ West: General Agricultural with a Sign Restriction Combining District (A1 [SR]), Silverado-Modjeska Specific Plan District, and Foothill/Trabuco Specific Plan Combining District (S); and • *City of Lake Forest* ○ South: Open Space Conservation District (OS).
8.	**Description of the Project:** The proposed Project would provide roadway, drainage, and erosion control improvements on-site. Roadway improvements would generally include pavement rehabilitation, a paved shoulder, construction of a retaining wall, storm drain system, and upgrading guardrails. The proposed Project would construct concrete-lined v-ditches and asphalt concrete dikes along the roadway edges. In addition, the Project would include installation of erosion control measures such as hydroseeding, open weave textile, and hydraulic biotic growth medium. Lastly, various at-grade utility appurtenances would be adjusted to grade, and underground water, electrical, and communication lines would be relocated, as needed. These improvements would result in safety enhancements for residents and travelers along Modjeska Grade Road, in addition to surrounding uses along the corridor. Further, the proposed Project would improve long-term operational maintenance activities and reduce temporary and emergency maintenance needs within the Project area. Additional details regarding the Project are provided in Section 2.5, *Project Characteristics*.
9.	**Surrounding Land Uses and Setting:** Surrounding land uses in proximity to the Project site are primarily comprised of residential, agricultural, and open space uses. Refer to Table 1, *Surrounding Land Uses* for a description of the surrounding land uses.
10.	**Other public agencies whose approval is required (e.g., permits, financing approval or participation agreement).** Refer to Section 2.7, *Permits and Approvals*, for a description of the permits and approvals anticipated to be required for the Project. Additional approvals may be required as the Project entitlement process moves forward.
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.?** The County solicited consultation with potentially affected Native American tribes regarding the Project on December 18, 2023 in accordance with AB 52; however, no requests for tribal consultation were received by the County during the 30-day tribal response period.

3.2 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" or "Less Than Significant Impact With Mitigation Incorporated," as indicated by the checklist on the following pages.

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

3.3 Evaluation of Environmental Impacts

This section analyzes the potential environmental impacts associated with the proposed project. The issue areas evaluated in this Initial Study include:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas
- 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

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines* and used by the County of Orange in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the development's impacts and to identify mitigation, which has been completed as part of this evaluation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The

analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- *No Impact*. The development will not have any measurable environmental impact on the environment.

- *Less Than Significant Impact*. The development will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.

- *Less Than Significant Impact With Mitigation Incorporated*. The development will have the potential to generate impacts which may be considered as a significant effect on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.

- *Potentially Significant Impact*. The development will have impacts which are considered significant, and additional analysis is required to identify mitigation measures that could reduce these impacts to less than significant levels.

Where potential impacts are anticipated to be significant, mitigation measures will be required, so that impacts may be avoided or reduced to insignificant levels.

4.0 ENVIRONMENTAL ANALYSIS

4.1 Aesthetics

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

Less Than Significant Impact. A scenic vista is generally defined as a view of undisturbed natural lands exhibiting a unique or unusual feature that comprises an important or dominant portion of the viewshed.[1] Scenic vistas may also be represented by a particular distant view that provides visual relief from less attractive views of nearby features. Other designated federal and State lands, as well as local open space or recreational areas, may also offer scenic vistas if they represent a valued aesthetic view within the surrounding landscape of nearby features.

[1] A viewshed is the geographical area which is visible from a particular location.

County of Orange

Although the County of Orange has not specifically defined scenic vistas, the County has identified ridgelines, hillsides, ocean views, signature landmarks (such as Saddleback in the Santa Ana Mountains and ocean views of Santa Catalina Island), and scenic vantage points as scenic areas in the Orange County General Plan, Resources Element (2005). Further, the Foothill/Trabuco Specific Plan identifies the surrounding "major ridgelines and major rock outcroppings" as visual resources. Scenic vantage points within Orange County include turnouts along Ortega Highway, Chapman Avenue, and Santiago Canyon Road, and parks on the coastal bluffs at the San Clemente and Corona Del Mar State Beach Parks, Dana Point, and Laguna Beach.

Within the Project vicinity, views of the Santiago Canyon hillsides, ridgelines, and rock outcroppings along public vantage points are afforded by motorists traveling along Modjeska Grade Road and pedestrians and bicyclists traveling along the Santiago Truck Trail.

Additionally, the Orange County General Plan, Transportation Element, provides goals and policies pertaining to County-designated Scenic Highways. East Santiago Canyon Road, which intersects with Modjeska Grade Road at the southern boundary of the Project site, is identified as a "viewscape corridor" on the Orange County General Plan, *Scenic Highway Plan Map*. However, due to the existing topography and the intervening trees, public views of the Project site from East Santiago Canyon Road are limited. The Orange County General Plan does not identify Modjeska Grade Road as a scenic "viewscape corridor." The Silverado-Modjeska Specific Plan does not identify any visual or scenic resources.

Short-Term Construction Impacts

Construction activities associated with the Project, such as ground disturbance, construction equipment, and supplies/stockpiles would be visible to motorists traveling along Modjeska Grade Road, and pedestrians and bicyclists traveling along the Santiago Truck Trail. However, the construction phase of the Project is anticipated to only occur for a duration of 12 months. As Modjeska Grade Road is not a viewscape corridor, views of construction activities on-site would be short-term in nature, would cease upon completion, and would not result in a substantial impact during construction. Following construction, views of the Project site and surrounding scenic vistas would be similar to existing conditions. Thus, short-term construction impacts to scenic views and vistas would be less than significant.

Long-Term Operational Impacts

The Project generally proposes to improve the existing pavement, drainage, flooding, and erosion control deficiencies on-site. Once construction is complete, the Project site would look similar to existing conditions. These improvements would not introduce new land uses or structures that would alter public views of the existing scenic vistas that surround the Project site (Santiago Canyon hillsides, ridgelines, and rock outcroppings). As such, the Project would have a less than significant impact on a scenic view or vista.

City of Lake Forest

Near the intersection of Modjeska Grade Road and East Santiago Canyon Road, a small portion of the Project site at the southern boundary is located within the City of Lake Forest's jurisdiction; refer to Exhibit 3-2, *Site Vicinity*. According to the *Draft Environmental Impact Report-2040*

Lake Forest General Plan (Lake Forest General Plan EIR), "significant visual features" within the City include the Saddleback mountains and the Santiago Peak. The Lake Forest General Plan EIR also identifies the Aliso Creek, Serrano Creek, San Diego Creek, and the Borrego Canyon Wash as "prominent creeks". Prominent creeks, as well as the Eucalyptus groves that surround portions of these creeks, are considered significant visual resources by the City. Lastly, the Lake Forest General Plan EIR generally identifies ridgelines, hillsides, and canyons within the City as visual features.

Within the City of Lake Forest's jurisdiction, public views of the Project site are limited to bicyclists and motorists traveling along East Santiago Canyon Road. Views of the Project site and Saddleback mountains, the Santiago Peak, Aliso Creek, Serrano Creek, San Diego Creek, and the Borrego Canyon Wash are not afforded to bicyclists and motorists traveling along East Santiago Canyon Road within the Project vicinity. Therefore, the Project would not result in a substantial impact on any identified visual resources within the City of Lake Forests. Less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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

No Impact. There are no officially designated State scenic highways within proximity to the Project site.[2] The nearest State scenic highway is State Route 74 (designated as eligible for listing), located approximately 10 miles southeast of the Project site. Given the distance of the Project site to the nearest State scenic highway, the Project would not damage any trees, rock outcroppings, or historic buildings within close proximity to a State scenic highway. No impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact. The Project site and surrounding area is urbanized. The existing visual character of the Project site consists of transportation uses (Modjeska Grade Road), and the surrounding area is comprised of residential, agricultural, and open space uses.

Short-Term Construction Impacts

The construction phase of the Project is expected to occur over a period of 12 months. During this time, construction-related activities associated with the Project could temporarily alter the existing visual character of the Project site and surrounding area for viewers from public vantage points (i.e., motorists and bicyclists). The visual impacts associated with construction activities

[2] California Department of Transportation, *List of Eligible and Officially Designated State Scenic Highway*, https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways, accessed April 19, 2024.

would involve graded surfaces, construction materials, equipment, and truck traffic. As noted above in Response 4.1(a), although views towards the Project site may temporarily be altered by ground disturbance and construction equipment, these potential impacts would not be substantial and would cease upon completion of the construction phase. Upon completion of Project construction, the visual character and quality of the site would generally appear similar to existing conditions (transportation uses). As such, short-term construction impacts would be less than significant in this regard.

Long-Term Operational Impacts

The Project would not substantially impact the visual environment of the site. The proposed Project would include roadway, drainage, and erosion control improvements to address current deficiencies (pavement, drainage, flooding, and erosion control) on and along Modjeska Grade Road on-site. The proposed Project improvements would not introduce new land uses to the Project site and, following completion of Project construction, the visual character and quality of the site would generally appear similar to existing conditions. Additionally, the Project would not substantially impede the views of the surrounding natural landscapes, hillsides, ridgelines, and rock outcroppings. As such, the character of the site would remain similar to the surrounding area. Less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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

No Impact. There are two primary sources of light: light emanating from building interiors that pass-through windows and light from exterior sources (i.e., street lighting, parking lot lighting, building illumination, vehicle headlights, security lighting, and landscape lighting). Depending upon the location of the light source and its proximity to adjacent light sensitive uses, light introduction can be a nuisance, affecting adjacent areas and diminishing the view of the clear night sky.

Short-Term Construction Impacts

Construction activities are anticipated to occur between the hours of 7:00 a.m. and 5:00 p.m., on weekdays in compliance with the County Code of Ordinances Section 7-1-822, *Time of Grading Operations* and the City of Lake Forest Municipal Code Section 8.30.064, *Time of Grading Operations*. Thus, no short-term impacts would occur in this regard.

Long-Term Operational Impacts

Currently, light and glare within the Project limits are emitted in the form of vehicle headlights of motor vehicles traveling along Modjeska Grade Road. Light and glare surrounding the Project site is emitted in the form of outdoor lighting from the adjacent single-family residential properties (i.e., security, safety, and accent lighting). Sensitive receptors near the Project site include these single-family residential uses along Modjeska Grade Road. As stated, the proposed Project would not introduce new land uses to the Project site that could increase new sources of light and glare. Additionally, Modjeska Grade Road would maintain its current configuration with one travel lane in each direction, thereby maintaining its vehicular capacity. Accordingly, vehicular lighting would not increase in the Project area as a result of Project implementation. The Project does not

propose new street lighting on-site and, therefore, would not introduce new sources of light and glare. Thus, no long-term impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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4.2 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. of 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:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code 12220 (g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51004(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 forest land to non-forest use?	☐	☐	☐	☒

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?

No Impact. According to the California Department of Conservation, the Project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.[1] The Project site is located in a rural, mountainous area and currently developed with the existing Modjeska Grade Road, which provides access to Modjeska Canyon residents and visitors. The Project site and surrounding vicinity do not contain any farmland designated as Prime, Unique, or Farmland of Statewide Importance. Thus, no impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. Existing surrounding land uses in the Project area are zoned the following (refer to Section 2.0, *Project Description*):

Unincorporated Orange County

- North: General Agricultural with a Sign Restriction Combining District (A1 [SR]), Silverado-Modjeska Specific Plan District, and Estates with a Sign Restriction Combining District (E1 [SR]) to the north;

[1] California Department of Conservation, *California Important Farmland Finder*, https://maps.conservation.ca.gov/DLRP/CIFF/, accessed April 19, 2024.

- East: Residential Hillside Estates with a Sign Restriction Combining District (RHE [SR]), General Agricultural with a Sign Restriction Combining District (A1 [SR]), Silverado-Modjeska Specific Plan District, and Foothill/ Trabuco Specific Plan Combining District (S) to the east;
- West: General Agricultural with a Sign Restriction Combining District (A1 [SR]), Silverado-Modjeska Specific Plan District, and Foothill/ Trabuco Specific Plan Combining District (S) to the west; and

City of Lake Forest

- South: Open Space Conservation District (OS) to the south.

Although surrounding land uses to the north, east, and west are zoned for agricultural use, the project site itself is not zoned for agricultural uses. Further, as a roadway and drainage improvement Project located within roadway right-of-way, the Project would not conflict with existing agricultural zoning of the surrounding uses . Therefore, no impact would occur in this regard.

Mitigation Measures: No mitigation measures are required.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code 12220 (g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51004(g))?

No Impact. Refer to Response 4.2(b). No forest land exists on-site or in the Project area. No zoning for forest land or timberland exists within the Project site, and no impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. Refer to Response 4.2(b) and (c). No impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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 forest land to non-forest use?

No Impact. Refer to Responses 4.2(a) through 4.2(c). As a roadway and drainage improvement Project, the Project would not result in the conversion of farmland to non-agricultural use or forest land to non-forest use.

Mitigation Measures: No mitigation measures are required.

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

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. The Project is located within the South Coast Air Basin (Basin), which is governed by the South Coast Air Quality Management District (SCAQMD). On December 2, 2022, the SCAQMD Governing Board adopted the *2022 Air Quality Management Plan* (2022 AQMP). The 2022 AQMP incorporates the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, updated emission inventory methodologies for various source categories. Additionally, the 2022 AQMP utilized information and data from Southern California Association of Governments (SCAG) and its 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS). While SCAG has recently adopted Connect SoCal 2024, SCAQMD has not released an updated AQMP. As such, this consistency analysis is based off the 2022 AQMP and the 2020-2045 RTP/SCS that was adopted at that time. According to the SCAQMD's *CEQA Air Quality Handbook*, projects must be analysed for consistency with two main criteria, as discussed below.

Criterion 1

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

I. Would the project result in an increase in the frequency or severity of existing air quality violations?

Since the consistency criteria identified under the first criterion pertain to pollutant concentrations, rather than to total regional emissions, an analysis of a project's pollutant emissions relative to localized pollutant concentrations associated with the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS) is used as the basis for evaluating project consistency. As discussed under Responses 4.3(b) and 4.3(c), the Project's short-term construction emissions, long-term operational emissions, and localized concentrations of carbon monoxide (CO), nitrogen oxide (NO_X), particulate matter less than 10 microns in diameter (PM_{10}), and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) would be less than significant. Due to the role VOC plays in O_3 formation, it is classified as a precursor pollutant and only a regional emissions threshold has been established. Overall, the Project would not result in an increase in the frequency or severity of existing air quality violations.

II. Would the project cause or contribute to new air quality violations?

As discussed in Responses 4.3(b) and 4.3(c), construction and operation of the proposed Project would result in emissions that would be below the SCAQMD construction and operational thresholds. Therefore, the proposed Project would not have the potential to cause or contribute to a new violation of the ambient air quality standards.

III. Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?

As discussed in Response 4.3(c), the proposed Project would result in less than significant impacts regarding localized concentrations during Project construction and operations. As such, the proposed Project would not delay the timely attainment of air quality standards or 2022 AQMP emissions reductions.

Criterion 2

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the Basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether the proposed Project exceeds the assumptions utilized in preparing the forecasts presented in the 2022 AQMP. Determining whether or not a project exceeds the assumptions reflected in the 2022 AQMP involves the evaluation of the three factors outlined below. The following discussion provides an analysis of each of these factors.

I. Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?

A Project is consistent with the 2022 AQMP in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the 2022 AQMP. In the case of the 2022 AQMP, three sources of data form the basis for the projections of air pollutant emissions: the Orange County's General Plan, SCAG's regional growth forecast, and the SCAG's 2020-2045 RTP/SCS. The 2020-2045 RTP/SCS also provides socioeconomic forecast projections of regional population growth.

The proposed Project includes pavement rehabilitation, widening of travel lanes, new and/or widened shoulders, and the installation of retaining walls and guardrails. These improvements would result in safety enhancements for residents and travelers along Modjeska Grade Road, in addition to surrounding uses along the corridor. The Project does not propose any new land uses that could increase population beyond what is considered in the General Plan and, therefore, would not affect County-wide plans related to population growth. Thus, the proposed Project is consistent with the types, intensity, and patterns of land use envisioned for the site in the General Plan. The population, housing, and employment forecasts presented in the 2020-2045 RTP/SCS are based on the local plans and policies applicable to the County. As the SCAQMD has incorporated these same projections into the 2022 AQMP, it can be concluded that the proposed Project would be consistent with the 2022 AQMP.

II. Would the project implement all feasible air quality mitigation measures?

The proposed Project would result in less than significant air quality impacts and would not require implementation of any mitigation measures. Furthermore, compliance with all feasible emission reduction standards identified by the SCAQMD would be required as identified in Responses 4.3(b) and 4.3(c). As such, the proposed Project meets this 2022 AQMP consistency criterion.

III. Would the project be consistent with the land use planning strategies set forth in the AQMP?

As discussed above, the Project does not propose any new land uses that would increase population growth beyond what is considered in the General Plan. Development consistent with the growth projections in the General Plan is considered to be consistent with the AQMP. As a roadway, drainage, and erosion control improvement Project, the Project would not alter the General Plan land use designation for the Project site. As such, the proposed Project meets this 2022 AQMP consistency criterion.

In conclusion, the Project would not have a significant long-term impact on the region's ability to meet State and federal air quality standards. Additionally, the proposed Project would be consistent with the goals and policies of the 2022 AQMP regarding fugitive dust control. As discussed above, the proposed Project would also be consistent with the goals and policies of the General Plan and the 2022 AQMP. Overall, development of the Project would not conflict with or obstruct implementation of the 2022 AQMP and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact.

Criteria Air Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and State governments have established air quality standards for outdoor or ambient concentrations to protect public health. The national and State ambient air quality standards have been set at levels to protect human health with a determined margin of safety. For some pollutants, there are also secondary standards to protect the environment. The U.S. Environmental Protection Agency (EPA) has established ambient air quality standards for the following air pollutants:

- ozone (O_3)
- nitrogen dioxide (NO_2)
- carbon monoxide (CO)
- sulfur dioxide (SO_2)
- lead (Pb)
- particulate matter (PM_{10} and $PM_{2.5}$)

A description of the criteria air pollutants is provided in Appendix A, *Air Quality/Greenhouse Gas Emissions/Energy Data*.

Short-Term Construction Impacts

Construction of the proposed Project would occur over approximately 12 months and would include grubbing and land clearing, grading and excavation, installing drainage, utilities, and sub-grade, and paving, with all these phases of construction occurring simultaneously. The Project is proposing to import and export approximately 900 and 100 cubic yards, respectively, of soil materials during the grading phase.

The California Emissions Estimator Model (CalEEMod) version 2022.1 was utilized to calculate the Project's construction air pollutants emissions; refer to Appendix A, for CalEEMod outputs and results. Exhaust emission factors for typical diesel-powered heavy equipment are based on the program defaults of CalEEMod. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. Table 4.3-1, *Project-Generated Construction Emissions*, presents the anticipated daily short-term construction emissions associated with the Project.

Table 4.3-1: Project-Generated Construction Emissions

Construction Emissions	Pollutant (pounds/day)[1]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 1 (2025)	7.30	62.40	79.00	0.13	6.43	3.09
Year 2 (2026)	6.93	57.90	77.40	0.13	6.13	2.82
Maximum Daily Emissions	**7.30**	**62.40**	**79.00**	**0.13**	**6.43**	**3.09**
SCAQMD Significance Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***

Notes: ROG = reactive organic gas; NOx = nitrous oxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

1. Emissions were calculated using CalEEMod, version 2022.1. Maximum emissions during summer or winter are presented here to represent the worst-case scenario.
2. Modeling assumptions include compliance with SCAQMD Rule 403 which requires: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.

Refer to Appendix A for CalEEMod outputs and results.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust emissions that may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the Project area. Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill, and truck travel on unpaved roadways (typically during demolition and construction activities). Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from grading, excavation and construction is expected to be short-term and would cease upon Project completion. These short-term impacts, however, would not be significant for the reasons discussed below.

Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM_{10} generated as a part of fugitive dust emissions. PM_{10} poses a serious health hazard alone or in combination with other pollutants. $PM_{2.5}$ is mostly produced by mechanical processes. These include automobile tire wear, industrial processes such as cutting and grinding, and re-suspension of particles from the ground or road surfaces by wind and human activities such as construction or agriculture. $PM_{2.5}$ is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and SO_X combining with ammonia. $PM_{2.5}$ components from material in the earth's crust, such as dust, are also present, with the amount varying in different locations.

The Project would implement all required dust control techniques per SCAQMD Rule 403, which requires that excessive fugitive dust emissions be controlled by regular watering or other dust prevention measures to reduce PM_{10} and $PM_{2.5}$ concentrations. It should be noted that these reductions were applied in CalEEMod. As depicted in Table 4.3-1, total fugitive dust (PM_{10} and

$PM_{2.5}$) emissions during construction would not exceed applicable SCAQMD thresholds. Thus, impacts in this regard would be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the Project site, employee commutes to the Project site, emissions produced on-site as equipment is used, and emissions from trucks transporting materials to/from the site. As presented in Table 4.3-1, criteria pollutant emissions, including those associated with the use of construction equipment and worker vehicle exhaust, would not exceed the applicable SCAQMD thresholds. Therefore, impacts in this regard would be less than significant.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. The ROG emissions associated with roadway striping have been quantified with the CalEEMod model. As presented in Table 4.3-1, criteria pollutant emissions associated with ROG emissions would not exceed the applicable SCAQMD thresholds. Therefore, impacts in this regard would be less than significant.

Naturally Occurring Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, federal, and international agencies and was identified as a toxic air contaminant by CARB in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released into the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed. According to the Department of Conservation Division of Mines and Geology, According to the Department of Conservation Division of Mines and Geology's *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report*, serpentinite and ultramafic rocks are not known to occur within the Project area.[1] Thus, there would be no impact regarding naturally occurring asbestos.

[1] California Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report*, August 2000.

Total Daily Construction Emissions

In accordance with the SCAQMD Guidelines, CalEEMod was utilized to model construction emissions for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. As indicated in Table 4.3-1, criteria pollutant emissions during construction of the proposed Project would not exceed the SCAQMD significance thresholds. Additionally, the Project would not result in impacts from naturally occurring asbestos. Thus, total construction related air emissions would be less than significant.

Long-Term Operation Impacts

Vehicle trips are typically generated by land use changes that may be indirectly influenced by transportation improvements. Roadway and drainage improvements, along with erosion measures, do not directly generate vehicle trips, a predominant source of air pollutant emissions. While the proposed Project would provide roadway improvements, including pavement rehabilitation, widening of travel lanes, new and/or widened shoulders, and the installation of retaining walls and guardrails, the Project would not increase the roadway capacity of the Modjeska Grade Road or represent a trip generating land use. Rather, the Project would facilitate safe and efficient vehicular travel along the Modjeska Grade Road corridor. The Project also does not propose any buildings and would not introduce new stationary source emissions. As the proposed Project would not include new mobile sources of emissions or permanent stationary sources, the Project would not have the potential to generate criteria air pollutants emissions from Project operations. Therefore, impacts in this regard would be less than significant.

Air Quality Health Impacts

Adverse health effects induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individual [e.g., age, gender]). In particular, O_3 precursors, VOCs, and NO_X affect air quality on a regional scale. Health effects related to O_3 are therefore the product of emissions generated by numerous sources throughout a region. Existing models have limited sensitivity to small changes in criteria pollutant concentrations, and, as such, translating project-generated criteria pollutants to specific health effects or additional days of nonattainment would produce meaningless results. In other words, the Project's less than significant increases in regional air pollution from criteria air pollutants would have nominal or negligible impacts on human health.

As noted in the Brief of Amicus Curiae by the SCAQMD,[2] the SCAQMD acknowledged it would be extremely difficult, if not impossible to quantify health impacts of criteria pollutants for various reasons including modeling limitations as well as where in the atmosphere air pollutants interact and form. Further, as noted in the Brief of Amicus Curiae by the San Joaquin Valley Air Pollution Control District (SJVAPCD),[3] SJVAPCD has acknowledged that currently available modeling

[2] South Coast Air Quality Management District, Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno, 2014.

[3] San Joaquin Valley Air Pollution Control District, Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno, 2014.

tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts.

The SCAQMD acknowledges that health effects quantification from O_3, as an example, is correlated with the increases in ambient level of O_3 in the air (concentration) that an individual person breathes. SCAQMD's Brief of Amicus Curiae goes on to state that it would take a large amount of additional emissions to cause a modeled increase in ambient O_3 levels over the entire region. The SCAQMD states that based on their own modeling in the SCAQMD's 2012 Air Quality Management Plan, a reduction of 432 tons (864,000 pounds) per day of NO_X and a reduction of 187 tons (374,000 pounds) per day of VOCs would reduce O_3 levels at highest monitored site by only nine parts per billion. As such, the SCAQMD concludes that it is not currently possible to accurately quantify O_3-related health impacts caused by NO_X or VOC emissions from relatively small projects (defined as projects smaller than regional scope) due to photochemistry and regional model limitations. Thus, as the Project would not exceed SCAQMD thresholds for construction (refer to Table 4.3-1) and would not generate operational air emissions, the Project would result in less than significant air quality health impacts.

Mitigation Measures: No mitigation measures are required.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses.[4] Examples of these sensitive receptors are residences, schools, hospitals, daycare centers, and places of worship. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The nearest sensitive receptors to the Project site are single-family residences located immediately adjacent to the north and south of the proposed construction boundary.

In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing localized significance thresholds (LSTs) for construction and operations impacts (stationary sources only). The CO hotspot analysis following the LST analysis addresses localized mobile source impacts.

LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology*, dated June 2003 and revised 2008, for guidance. The LST methodology assists lead agencies in analyzing localized impacts at the project-specific level. The SCAQMD provides the LST lookup tables for one-, two-, and five-acre projects emitting CO, NO_X, $PM_{2.5}$, or PM_{10}. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways.

[4] Per the definition in the SCAQMD *Final Localized Significance Threshold Methodology*, revised July 2008, and various SCAQMD Rules (such as Rule 1470, paragraph [b][60]).

The SCAQMD guidance on applying CalEEMod to LSTs specifies the number of acres a particular piece of equipment would likely disturb per day.[5] SCAQMD provides LST thresholds for one-, two-, and five-acre site disturbance areas; SCAQMD does not provide LST thresholds for projects over five acres. According to CalEEMod, the Project would actively disturb less than one acre per day during the grading phase of construction. Therefore, the LST thresholds for one-acre (minimum) were utilized for the construction LST analysis. Sensitive land uses may be potentially affected by air pollutant emissions generated during on-site construction activities. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. According to SCAQMD LST Methodology, projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters. As the nearest sensitive uses are adjacent to the proposed construction boundary, the LST values for 25 meters (82 feet) were used. The Project site is located within Source Receptor Area (SRA) 19, Saddleback Valley.

Short-Term Construction Impacts

Table 4.3-2, *Localized Significance of Construction Emissions*, shows the localized construction-related emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ compared to the LSTs for SRA 19. It is noted that the localized emissions presented in Table 4.3-2 are less than those in Table 4.3-1 because localized emissions include only on-site emissions (i.e., from construction equipment and dust from material movement), and do not include off-site emissions (i.e., from hauling activities). As shown in Table 4.3-2, localized construction emissions would not exceed the LSTs for SRA 19. Therefore, localized significance impacts from construction would be less than significant.

Table 4.3-2: Localized Emissions Significance

Source	Pollutant (pounds/day)[1]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions[2,3]	**32.60**	**36.90**	**2.91**	**1.51**
Localized Significance Threshold[4]	*91*	*696*	*4*	*3*
Thresholds Exceeded?	***No***	***No***	***No***	***No***

Notes:
1. Emissions were calculated using CalEEMod, version 2022.1.
2. Maximum on-site daily emissions occur during grading phase in Year 1 (2025) for all four pollutants, including NOx, CO, PM_{10}, and $PM_{2.5}$.
3. Modeling assumptions include compliance with SCAQMD Rule 403 which requires the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.
4. The Localized Significance Threshold Mass Rate Screening Criteria was determined using Appendix C of the SCAQMD *Final Localized Significant Threshold Methodology* guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold was based on the anticipated daily acreage disturbance for construction (less than one acre) and SRA 19.

Refer to Appendix A for CalEEMod outputs and results.

[5] The number of acres represent the total acres traversed by grading equipment. To properly grade a piece of land, multiple passes with equipment may be required. The disturbance acreage is based on the equipment list and days of the grading phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday.

Long-Term Operation Impacts

According to SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a project if the Project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or transfer facilities). The proposed Project does not include such uses. Thus, due to the lack of such emissions, no long-term localized significance threshold analysis is needed. No operational LST impacts would result in this regard.

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affecting residents, school children, hospital patients, the elderly, etc.).

The Basin is designated as an attainment/maintenance area for the federal CO standards and an attainment area for State standards. There has been a decline in CO emissions even though vehicle miles traveled on U.S. urban and rural roads have increased. Nationwide estimated anthropogenic CO emissions have decreased 68 percent between 1990 and 2014. In 2014, mobile sources accounted for 82 percent of the nation's total anthropogenic CO emissions.[6] Three major control programs have contributed to the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

According to the SCAQMD *CEQA Air Quality Handbook*, a potential CO hotspot may occur at any location where the background CO concentration already exceeds 9.0 parts per million (ppm), which is the 8-hour California ambient air quality standard. As previously discussed, roadway and drainage improvements, along with erosion measures, do not directly generate vehicle trips, a predominant source of CO emissions. As such, it is not anticipated that the Project would result in a CO hotspot with minimal vehicle trips generated as a part of the Project. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact. According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed Project does not include any uses identified by the SCAQMD as being associated with odors.

Construction activities associated with the Project may generate detectable odors from heavy-duty equipment exhaust. However, construction-related odors would be short-term in nature and cease upon Project completion. In addition, the Project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimize the idling

[6] U.S. Environmental Protection Agency, *Carbon Monoxide Emissions*, https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=10, accessed August 11, 2023.

time of construction equipment either by requiring equipment to be shut off when not in use or limiting idling time to no more than five minutes. Compliance with these existing regulations would further reduce the detectable odors from heavy-duty equipment exhaust. The Project would also be required to comply with the SCAQMD Rule 1113, which would minimize odor impacts from ROG emissions during roadway striping. Any odor impacts to existing adjacent land uses would be short-term and negligible. As such, the Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

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4.4 Biological Resources

Would the Project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or 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 provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

This section is primarily based upon the following technical studies included in Appendix B, *Biological Resources Documentation/Jurisdictional Delineation*:

- *Delineation of State and Federal Jurisdictional Waters for the Modjeska Grade Road Improvements Project located in unincorporated Orange County, California* (Jurisdictional Delineation), prepared by Michael Baker International (Michael Baker), dated December 19, 2023;

- *Modjeska Grade Road Improvements Project, Unincorporated Orange County, California, Biological Resources Assessment* (Biological Resources Assessment), prepared by Michael Baker, dated December 2023; and

- *Results of Coastal California Gnatcatcher Protocol Surveys for the Modjeska Grade Road Improvement Project in Orange County, California* (Coastal Gnatcatcher Protocol Surveys), prepared by Michael Baker, dated October 26, 2022.

According to the Biological Resources Assessment, the Project site is within the Orange County NCCP/HCP Plan Area, with the north end of the Project site located within NCCP/HCP Non-Reserve Open Space. The County is a participating local government, participating landowner, and the driving force behind the development of the NCCP/HCP. As a result, take coverage is extended to the County for Planned Activities. Both the construction of and maintenance of existing infrastructure facilities are considered Planned Activities under the NCCP/HCP; and thus, the proposed Project is covered under the NCCP/HCP. Areas within the NCCP/HCP Plan Area are covered under the take authorization issued to participants in the NCCP/HCP, while areas within the Non-Reserve Open Space are not. It should be noted that Non-Reserve Open Space refers to regional open spaces that were in public ownership prior to adoption of the NCCP/HCP. These open spaces are not subject to the development requirements associated with the Reserve system; however, these open spaces are recognized as integral components of the overall subregional conservation strategy.

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

Less Than Significant Impact With Mitigation Incorporated. A Biological Resources Assessment was prepared for the Project and included a literature review and records search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CIRP), and the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation Project Planning Tool (IPaC). The records search encompassed four United States Geologic Survey (USGS) 7.5-minute quadrangles, including the *El Toro*, *Black Star Canyon*, *Corona South*, and *Santiago Peak*, *California* quadrangles. In addition, publicly available reports, survey results, and literature were reviewed detailing the biological resources previously observed on or within the vicinity of the Project site, including the USFWS Critical Habitat Mapper and Environmental Conservation Online System, U.S. Department of Agriculture *Custom Soil Resource Report for Orange County and Part of Riverside County, California*, Cornell Lab of Ornithology's *Birds of the World Species Accounts*, and historic/current aerial photographs.

Three field surveys/habitat assessments were also conducted to observe existing biological resource conditions. The entire Project site as well as areas within a 500-foot buffer (survey area) were surveyed; refer to Biological Resources Assessment Figure 3, *Project Site*. Binoculars were utilized to observe conditions where access off Modjeska Grade Road was not possible due to steep slopes, or where areas outside of the Project site were not accessible. Based on the field surveys, the overall survey area and Project site contain a mixture of developed and natural vegetation communities. The Project site consists of a 1.3-mile segment of Modjeska Grade Road from 100 feet south of the Markuson Road/Modjeska Canyon Road intersection to the East Santiago Canyon Road. However, the larger survey area surrounding the Project site consists primarily of rural residential properties and open space composed of natural vegetation communities. A total of four natural vegetation communities and one land cover type were observed and mapped within the boundaries of the survey area during the field survey; refer to Table 4.4-1, *Vegetation Communities and Other Land Uses*.

Table 4.4-1: Vegetation Communities and Other Land Uses

Vegetation Communities/Other Land Uses	Presence within the Survey Area	Presence within the Project site
Chamise - sage chaparral (*Adenostoma fasciculatum – Salvia* spp. Shrubland Alliance [*Adenostoma fasciculatum – Salvia mellifera – Malosma laurina* Association])[1]	Present	Present
Disturbed chamise - sage chaparral (disturbed *Adenostoma fasciculatum – Salvia* spp. Shrubland Alliance [*Adenostoma fasciculatum – Salvia mellifera – Malosma laurina* Association])[1]	Present	Not Present
Coast live oak woodland and forest (*Quercus agrifolia* Forest & Woodland Alliance)	Present	Present

Vegetation Communities/Other Land Uses	Presence within the Survey Area	Presence within the Project site
California sycamore - coast live oak riparian woodlands (*Platanus racemosa - Quercus agrifolia* Woodland Alliance)	Present	Present
Disturbed/developed	Present	Present

Notes:
1. According to the *Central and Coastal Subregion, Natural Community Conservation Plan & Habitat Conservation Plan*, prepared by the County of Orange and dated July 17, 1996, the chamise - chaparral vegetation community is defined as non-coastal sage scrub habitat, within the coastal sage scrub habitat mosaic, at a level comparable to the protection provided for coastal sage scrub habitat within the Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP).

Sources: Michael Baker International, *Modjeska Grade Road Improvements Project, Unincorporated Orange County, California, Biological Resources Assessment*, December 2023; refer to Appendix B.

For the purposes of this analysis, the natural vegetation communities described in Table 4.4-1 are henceforth referenced as such for consideration of potential impacts. Thus, impacts to these natural vegetation communities are further discussed in Response 4.4(b), below.

Special-Status Plants

Table 4.4-2, *Presence/Potential of Special-Status Plant Species to Occur within the Survey Area/Project Site*, provides a summary of the special-status plant species with the potential to occur or those observed within the survey area during Michael Baker's field surveys conducted as part of the Biological Resources Assessment. As shown on Table 4.4-2, two special-status plant species, southern California black walnut (*Juglans californica*) and intermediate mariposa lily (*Calochortus weedii var. intermedius*), were observed within the survey area during Michael Baker's field surveys. Two southern California black walnut trees were observed in the north portion of the Project site. Intermediate mariposa lily was observed within the survey area, but outside of the Project site during the field surveys (within chamise – sage chaparral habitat), along the east side of Modjeska Canyon Road roughly 0.5-mile to the north of the Modjeska Canyon Road and Santiago Canyon Road intersection.

Additionally, the Biological Resources Assessment also determined that there is a high potential for the Project site to support Braunton's milk-vetch (*Astragalus brautonii*), Catalina mariposa-lily (*Calochortus catalinae*), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*), intermediate monardella (*Monardella hypoleuca* ssp. *intermedia*), chaparral nolina (*Nolina cismontana*), Hubby's phacelia (*Phacelia hubbyi*), Coulter's matilijia poppy (*Romneya coulteri*), and San Diego County viguiera (*Viguiera laciniata*) and a moderate potential to support summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*) and many-stemmed dudleya (*Dudleya multicaulis*). All other remaining special-status plant species identified during review of the CNDDB, CIRP, and IPaC have a low potential to occur or are not expected to occur within the Project site.

Table 4.4-2: Presence/Potential of Special-Status Plant Species to Occur within the Survey Area/Project Site

Special-Status Plant Species[1]	Presence/Potential to Occur within the Survey Area	Presence/Potential to Occur within the Project Site
Southern California black walnut (*Juglans californica*)	Present	Present[3]
Intermediate mariposa lily (*Calochortus weedii var. intermedius*)	Present[2]	Not Present
Braunton's milk-vetch (*Astragalus brautonii*)	High	High
Catalina mariposa-lily (*Calochortus catalinae*)	High	High
Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*)	High	High
Intermediate monardella (*Monardella hypoleuca* ssp. *intermedia*)	High	High
Chaparral nolina (*Nolina cismontana*)	High	High
Hubby's phacelia (*Phacelia hubbyi*)	High	High
Coulter's matilijia poppy (*Romneya coulteri*)	High	High
San Diego County viguiera (*Viguiera laciniata*)	High	High
Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)	Moderate	Moderate
Many-stemmed dudleya (*Dudleya multicaulis*)	Moderate	Moderate

Notes:
1. All other remaining special-status plant species identified during review of the California Natural Diversity Database (CNDDB), Online Inventory of Rare and Endangered Plants of California (CIRP), and Information for Planning and Consultation (IPaC) have a low potential to occur or are not expected to occur within the Project site.
2. Intermediate mariposa lily was observed within the survey area, but outside of the Project site during the field surveys (within chamise – sage chaparral habitat), along the east side of Modjeska Canyon Road roughly 0.5-mile to the north of the Modjeska Canyon Road and Santiago Canyon Road intersection.
3. Two southern California black walnut trees were observed in the north portion of the Project site.

Sources: Michael Baker International, *Modjeska Grade Road Improvements Project, Unincorporated Orange County, California, Biological Resources Assessment*, December 2023; refer to Appendix B.

Due to the observations of southern California black walnut and intermediate mariposa lily occurring on-site or in the survey area during field surveys, and high to moderate potential for the Project site to support Braunton's milk-vetch, Catalina mariposa-lily, Robinson's pepper-grass, intermediate monardella, chaparral nolina, Hubby's phacelia, Coulter's matilijia poppy, and San Diego County viguiera, summer holly, and many-stemmed dudleya, these special-status plant species are described in further detail below.

Southern California Black Walnut

Southern California black walnut is widespread throughout Orange County and is not considered to be either locally or regionally rare; as a result, the presence of this species on the Project site (i.e., two individuals in the northern portion of the Project site) and potential impacts to the on-site occurrences would not be considered significant under CEQA or require mitigation. Less than significant impacts would occur in this regard.

Special-Status Plant Species Covered Under the NCCP/HCP

Intermediate mariposa lily, Catalina mariposa-lily, and Coulter's matilijia poppy are covered species under the NCCP/HCP. Although observed within the survey area, intermediate mariposa lily was not observed on-site and would not be impacted by the proposed Project. Catalina mariposa-lily and Coulter's matilijia poppy were not observed within the survey area or Project site; and thus, would not be impacted by the proposed Project. Impacts to species within the NCCP/HCP area, but outside the Non-Reserve Open Space area, are considered covered under the NCCP/HCP and would not require mitigation. Although intermediate mariposa lily, Catalina mariposa-lily, and Coulter's matilijia poppy have the potential to occur on-site (within the NCCP/HCP area), the Project site is located outside of the Non-Reserve Open Space area; and thus, would not require mitigation. Thus, impacts to intermediate mariposa lily, Catalina mariposa-lily, and Coulter's matilijia poppy would be less than significant. Refer to Table 4.4-3, *Special-Status Plant Species Covered Under the NCCP/HCP*.

Table 4.4-3: Special-Status Plant Species Covered Under the NCCP/HCP

Common Name and *Scientific Name*	Species Observed within Survey Area	NCCP/HCP Covered Species	Potential to Occur	Mitigation Required to Reduce Impacts to Less Than Significant
Intermediate mariposa lily (*Calochortus weedii var. intermedius*)	Yes	Yes	Intermediate mariposa lily was observed within the survey area, but outside of the Project site during the field surveys (within chamise – sage chaparral habitat), along the east side of Modjeska Canyon Road roughly 0.5-mile to the north of the Modjeska Canyon Road and Santiago Canyon Road intersection.	None
Catalina mariposa-lily (*Calochortus catalinae*)	No	Yes	Suitable habitat is present throughout the Project site, with a known occurrence record located within one-mile from the Project site. Thus, Catalina mariposa-lily has a high	None

Common Name and *Scientific Name*	Species Observed within Survey Area	NCCP/HCP Covered Species	Potential to Occur	Mitigation Required to Reduce Impacts to Less Than Significant
			potential to occur within the Project site.	
Coulter's matilijia poppy (*Romneya coulteri*)	No	Yes	Suitable habitat is present throughout the Project site, with a known occurrence record located within one-mile from the Project site. Thus, Coulter's matilijia poppy has a high potential to occur within the Project site.	None

Note: NCCP/HCP = Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan

Source: Michael Baker International, *Modjeska Grade Road Improvements Project, Unincorporated Orange County, California, Biological Resources Assessment*, December 2023; refer to Appendix B.

Special-Status Plant Species Not Covered Under the NCCP/HCP

Impacts to species not covered under the NCCP/HCP (i.e., Braunton's milk-vetch, intermediate monardella, chaparral nolina, summer holly, and many-stemmed dudleya) or impacts to covered species within the Non-Reserve Open Space area would require mitigation; refer to Table 4.4-4, *Special-Status Plan Species Not Covered Under the NCCP/HCP*. As such, to ensure proper avoidance of these species with the potential to occur within the Project site, MM BIO-1 would require a focused rare plant surveys prior to construction activities and during the appropriate blooming periods in areas with suitable habitat to determine presence or absence of Braunton's milk-vetch, intermediate monardella, chaparral nolina, summer holly, and many-stemmed dudleya. The surveys would be required to be floristic in nature (i.e., identifying all plant species to the taxonomic level necessary to determine rarity), and be inclusive of, at a minimum, the areas proposed for disturbance. Documentation of surveys and findings would be submitted to OC Public Works and CDFW for review. In the event Braunton's milk-vetch, intermediate monardella, chaparral nolina, summer holly, and many-stemmed dudleya are found to occur on-site, areas containing these species must be marked with temporary fencing or other markers clearly visible to construction personnel. No construction access, parking, or storage of equipment or materials would be permitted within such marked areas. If avoidance is not feasible, consultation with CDFW and/or USFWS would be required and an Incidental Take Permit(s) from the CDFW and/or USFWS must be obtained prior to the commencement of construction activities. With implementation of MM BIO-1, impacts to Braunton's milk-vetch, intermediate monardella, chaparral nolina, summer holly, and many-stemmed dudleya would be reduced to less than significant levels.

Table 4.4-4: Special-Status Plant Species Not Covered Under the NCCP/HCP

Common Name and *Scientific Name*	Species Observed within Survey Area	NCCP/HCP Covered Species	Potential to Occur	Mitigation Required to Reduce Impacts to Less Than Significant
Braunton's milk-vetch (*Astragalus brautonii*)	No	No	Suitable habitat is present throughout the Project site, with a known occurrence record located within one-mile from the Project site. Thus, Braunton's milk-vetch has a high potential to occur within the Project site.	MM BIO-1
Intermediate monardella (*Monardella hypoleuca* ssp. *intermedia*)	No	No	Suitable habitat is present throughout the Project site, with a known occurrence record located within 0.5-mile from the Project site. Thus, intermediate monardella has a high potential to occur within the Project site.	MM BIO-1
Chaparral nolina (*Nolina cismontana*)	No	No	Suitable habitat is present throughout the Project site, with a known occurrence record located within one-mile from the Project site. Thus, chaparral nolina has a high potential to occur within the Project site.	MM BIO-1
Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)	No	No	Suitable habitat is present throughout the Project site, with a known occurrence record located within 2.5 miles from the Project site. Thus, summer holly has a moderate potential to	MM BIO-1

Common Name and *Scientific Name*	Species Observed within Survey Area	NCCP/HCP Covered Species	Potential to Occur	Mitigation Required to Reduce Impacts to Less Than Significant
			occur within the Project site.	
Many-stemmed dudleya (*Dudleya multicaulis*)	No	No	Suitable habitat is present throughout the Project site, with a known occurrence record located within 1.7 miles from the Project site. Thus, many-stemmed dudleya has a moderate potential to occur within the Project site.	MM BIO-1

Note: NCCP/HCP = Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan

Source: Michael Baker International, *Modjeska Grade Road Improvements Project, Unincorporated Orange County, California, Biological Resources Assessment*, December 2023; refer to Appendix B.

Special-Status Plant Species Not Regionally Rare or Unique

Species that can be shown to meet the criteria for endangered, rare, or threatened status under CEQA Section 15380(d) or that can be shown to be regionally rare or unique as defined in CEQA Section 15125(c) must be fully analyzed. Although Robinson's pepper-grass, Hubby's phacelia, and San Diego County viguiera were not observed within the survey area or Project site, these plant species have a high potential to occur within the survey area and Project site. However, Robinson's pepper-grass, Hubby's phacelia, and San Diego County viguiera are not regionally rare or unique as defined in CEQA Section 15125(c); refer to Table 4.4-5, *Special-Status Plant Species Not Regionally Rare or Unique*. Further, the potential removal of these species on-site, if any, would be minimal and not result in significant impacts under CEQA; therefore, potential impacts would not require mitigation. Impacts would be less than significant in this regard.

Table 4.4-5: Special-Status Plant Species Not Regionally Rare or Unique

Common Name and *Scientific Name*	Species Observed within Survey Area	NCCP/HCP Covered Species	Potential to Occur	Mitigation Required to Reduce Impacts to Less Than Significant
Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*)	No	No	Suitable habitat is present throughout the Project site, with a known occurrence record located within	None

Common Name and *Scientific Name*	Species Observed within Survey Area	NCCP/HCP Covered Species	Potential to Occur	Mitigation Required to Reduce Impacts to Less Than Significant
			one-mile from the Project site. Thus, Robinson's pepper-grass has a high potential to occur within the Project site.	
Hubby's phacelia (*Phacelia hubbyi*)	No	No	Suitable habitat is present throughout the Project site, with a known occurrence record located within one-mile from the Project site. Thus, Hubby's phacelia has a high potential to occur within the Project site.	None
San Diego County viguiera (*Viguiera laciniata*)	No	No	Suitable habitat is present throughout the Project site, with a known occurrence record located within two miles from the Project site. Thus, San Diego County viguiera has a high potential to occur within the Project site.	None

Note: NCCP/HCP = Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan

Source: Michael Baker International, *Modjeska Grade Road Improvements Project, Unincorporated Orange County, California, Biological Resources Assessment*, December 2023; refer to Appendix B.

Overall, with implementation of MM BIO-1 and coverage under the NCCP/HCP, potential impacts to special-status plant species would be reduced to less than significant levels.

Special-Status Wildlife

Table 4.4-6, *Presence/Potential of Special-Status Wildlife Species to Occur within the Survey Area/Project Site*, provides a summary of special-status wildlife species with the potential to occur or those observed within the survey area during Michael Baker's field surveys.

Table 4.4-6: Presence/Potential of Special-Status Wildlife Species to Occur within the Survey Area/Project Site

Special-Status Wildlife Species[1]	Presence/Potential to Occur within the Survey Area	Presence/Potential to Occur within the Project Site
Orange-throated whiptail (*Aspidoscelis hyperythra*)	Present	Anticipated[2]
Red-diamond rattlesnake (*Crotalus ruber*)	Present	Anticipated[2]
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	Present	Anticipated[2]
Peregrine falcon (*Falco peregrinus*)	Present	Anticipated[2]
Crotch bumble bee (*Bombus crotchii*)	High	High
Coast horned lizard (*Phrynosoma blainvillii*)	High	High
San Diego desert woodrat (*Neotoma lepida intermedia*)	High	High
Southern grasshopper mouse (*Onychomys torridus ramona*)	High	High
Western spadefoot (*Spea hammondii*)	Moderate	Moderate
Coastal California gnatcatcher (*Polioptila californica californica*)	Moderate	Moderate
Two-striped gartersnake (*Thamnophis hammondii*)	Moderate	Moderate

Notes:
1. All other remaining special-status plant species identified during review of the California Natural Diversity Database (CNDDB) and Information for Planning and Consultation (IPaC) have a low potential to occur or are not expected to occur within the Project site.
2. This species was observed within the survey area during the field surveys. Thus, this species is anticipated to occur within the Project site.

Sources: Michael Baker International, *Modjeska Grade Road Improvements Project, Unincorporated Orange County, California, Biological Resources Assessment*, December 2023; refer to Appendix B.

Due to the observations of orange-throated whiptail, red-diamond rattlesnake, southern California rufous-crowned sparrow, and peregrine falcon occurring in the survey area during field surveys, and high to moderate potential for the Project site to support Crotch bumble bee, coast

horned lizard, San Diego desert woodrat, southern grasshopper mouse, western spadefoot, coastal California gnatcatcher, two-striped gartersnake, these special-status animal species are described in further detail below.

Special-Status Wildlife Species Covered Under the NCCP/HCP

Orange-throated whiptail, red-diamond rattlesnake, coast horned lizard, western spadefoot, San Diego desert woodrat, southern California rufous-crowned sparrow, peregrine falcon, and coastal California gnatcatcher are covered species under the NCCP/HCP. Although orange-throated whiptail, red-diamond rattlesnake, coast horned lizard, western spadefoot, San Diego desert woodrat, southern California rufous-crowned sparrow, peregrine falcon, and coastal California gnatcatcher are present or have the potential to occur on-site (within the NCCP/HCP area), the Project site is located outside of the Non-Reserve Open Space area. Impacts to species within the NCCP/HCP area, but outside the Non-Reserve Open Space area, are considered covered under the NCCP/HCP and would not require mitigation. Thus, impacts to orange-throated whiptail, red-diamond rattlesnake, coast horned lizard, western spadefoot, San Diego desert woodrat, southern California rufous-crowned sparrow, peregrine falcon, and coastal California gnatcatcher would be considered covered under the NCCP/HCP.

Although these species would be covered under the existing NCCP/HCCP, MMs BIO-2 through BIO-5, BIO-7, and BIO-8 are recommended to further reduce potential impacts to these species.

MM BIO-2 would ensure a pre-construction clearance survey for special-status amphibians and reptile species is conducted 24-hours prior to installation of wildlife exclusion fencing (WEF), vegetation clearing, and/or initiation of ground disturbing activities. If any special-status amphibian or reptile species are found, the Project biologist shall relocate the animal(s) to appropriate habitat off-site. If a lapse in Project-related work of 15 days or longer occurs, another focused survey shall occur.

MM BIO-3 would require the construction contractor to install WEF along the Project boundaries, within suitable habitat for special-status amphibian and reptile species, prior to ground disturbing activities.

MM BIO-4 would require construction pipes, culverts, or similar structures stored within the Project area (for one or more overnight periods) to be either securely capped prior to storage or thoroughly inspected by the construction contractor and/or qualified biologist for special-status wildlife species.

MM BIO-5 would require the construction contractor and/or qualified biologist to ensure excavated, steep-walled holes or trenches (more than six inches deep) are provided with one or more escape ramps constructed of earthen fill or wooden planks.

MM BIO-7 would require vegetation removal to occur outside of the Coastal California gnatcatcher nesting season (February 1st through September 31st). In the event vegetation removal is required during the Coastal California gnatcatcher nesting season/migratory bird nesting season (February 1st through September 31st), MM BIO-7 would also require a pre-construction nesting bird clearance survey be conducted within three days prior to vegetation removal to determine the presence/absence, location, and status of any active nests within the Project site. If the nesting bird clearance survey indicates the presence of nesting migratory birds,

MM BIO-7 requires buffers to ensure that any nesting migratory native birds are protected pursuant to the MBTA.

MM BIO-8 ensures that grading of chamise – sage chaparral habitat that is occupied by nesting coastal California gnatcatcher does not occur during the breeding season (February 1st through September 31st). Prior to the commencement of grading activities or other activities involving substantial soil disturbance, areas of chamise – sage chaparral habitat to be avoided under the provisions of the NCCP/HCP require identification with temporary fencing or other markers clearly visible to construction personnel. A biologist acceptable to the USFWS/CDFW would be required to be on-site during any clearing of chamise – sage chapparal. Pre-construction meetings would also be conducted and documented to ensure maximum practicable adherence to the aforementioned measures. Further, chamise – sage chapparal identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas must be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.

With the implementation of MMs BIO-2 through BIO-5, BIO-7, and BIO-8 and coverage under the NCCP/HCP, impacts to these species would be reduced to less than significant levels. Refer to Table 4.4-7, *Special-Status Wildlife Species Covered Under the NCCP/HCP*.

Table 4.4-7: Special-Status Wildlife Species Covered Under the NCCP/HCP

Common Name and *Scientific Name*	Species Observed within Survey Area	NCCP/HCP Covered Species	Potential to Occur	Mitigation Required to Reduce Impacts to Less Than Significant
Orange-throated whiptail (*Aspidoscelis hyperythra*)	Yes	Yes	Orange-throated whiptail was observed within the survey area during the field surveys. Thus, orange-throated whiptail is anticipated to occur within the Project site.	MMs BIO-2 through BIO-5
Red-diamond rattlesnake (*Crotalus ruber*)	Yes	Yes	Red-diamond rattlesnake was observed within the survey area during the field surveys. Thus, red-diamond rattlesnake is anticipated to occur within the Project site.	MMs BIO-2 through BIO-5
Coast horned lizard (*Phrynosoma blainvillii*)	No	Yes	Suitable habitat is present throughout the Project site, with the nearest occurrence record located approximately 0.4-mile from the Project site. Thus, coast horned lizard has a	MMs BIO-2 through BIO-5

Common Name and *Scientific Name*	Species Observed within Survey Area	NCCP/HCP Covered Species	Potential to Occur	Mitigation Required to Reduce Impacts to Less Than Significant
			high potential to occur within the Project site.	
Western spadefoot (*Spea hammondii*)	No	Yes	Suitable habitat is present within the Project site (along Santiago Creek), with the nearest occurrence record located approximately 1.2 miles from the Project site. Thus, western spadefoot has a high potential to occur within the Project site.	MMs BIO-2 through BIO-5
San Diego desert woodrat (*Neotoma lepida intermedia*)	No	Yes	Suitable habitat is present throughout the Project site, with the nearest occurrence record located approximately 0.3-mile from the Project site. Thus, San Diego desert woodrat has a high potential to occur within the Project site.	MMs BIO-4 and BIO-5
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	Yes	Yes	Southern California rufous-crowned sparrow was observed within the survey area during the field surveys. Thus, southern California rufous-crowned sparrow is anticipated to occur within the Project site.	MMs BIO-4 and BIO-7
Peregrine falcon (*Falco peregrinus*)	Yes	Yes	Peregrine falcon was observed within the survey area during the field surveys. Thus, peregrine falcon is anticipated to occur within the Project site.	MMs BIO-4 and BIO-7
Coastal California gnatcatcher (*Polioptila*	No	Yes	Suitable habitat is present throughout the Project site. Coastal California gnatcatcher was not observed during any of the	MMs BIO-4, and BIO-7 and BIO-8

Common Name and *Scientific Name*	Species Observed within Survey Area	NCCP/HCP Covered Species	Potential to Occur	Mitigation Required to Reduce Impacts to Less Than Significant
californica californica)			field surveys, including the focused surveys conducted as part of the Coastal Gnatcatcher Protocol Surveys. Although Coastal California gnatcatcher was not observed within the Project site during focused surveys, there are multiple occurrence records in the surrounding area and this species could potentially occur within the Project site.	

Note: NCCP/HCP = Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan

Sources: Michael Baker International, Results of Coastal California Gnatcatcher Protocol Surveys for the Modjeska Grade Road Improvement Project in Orange County, California, October 26, 2022; refer to Appendix B.
Michael Baker International, Modjeska Grade Road Improvements Project, Unincorporated Orange County, California, Biological Resources Assessment, December 2023; refer to Appendix B.

Special-Status Wildlife Species Not Covered Under the NCCP/HCP

Impacts to species not covered under the NCCP/HCP (i.e., two-striped gartersnake, southern grasshopper mouse, and Crotch bumble bee) or impacts to covered species within the Non-Reserve Open Space area would require mitigation; refer to Table 4.4-8, *Special-Status Wildlife Species Not Covered Under the NCCP/HCP*. As such, to ensure proper avoidance of these species with the potential to occur within the Project site, MMs BIO-2 through BIO-6 would be required to reduce potential impacts to these species. Refer to the *Special-Status Wildlife Species Covered Under the NCCP/HCP* subsection above for a description of MMs BIO-1 through BIO-5.

MM BIO-6 would require a qualified biologist to conduct up to three on-site surveys (two to four weeks apart) prior to ground disturbing activities. If Crotch bumble bees or potential Crotch bumble bees (since bumble bees can be difficult to identify in the field) are observed within the site, a plan to protect Crotch bumble bee nests and individuals would be required to be developed and implemented in consultation with CDFW. If no protected Crotch bumble bees are found during the multiple rounds of focused surveys but the habitat assessment identifies suitable nesting, foraging, or overwintering habitat within the Project site, a biological monitor would be

required on-site during vegetation or ground-disturbing activities that take place during the optimal activity period (i.e., April through August).

With implementation of MMs BIO-1 through BIO-6, impacts to two-striped gartersnake, southern grasshopper mouse, and Crotch bumble bee would be reduced to less than significant levels.

Table 4.4-8: Special-Status Wildlife Species Not Covered Under the NCCP/HCP

Common Name and *Scientific Name*	Species Observed within Survey Area	NCCP/HCP Covered Species	Potential to Occur	Mitigation Required to Reduce Impacts to Less Than Significant
Two-striped gartersnake (*Thamnophis hammondii*)	No	No	Suitable habitat is present within the Project site (along Santiago Creek), with the nearest occurrence record located approximately 0.3-mile from the Project site. Thus, two-striped gartersnake has a high potential to occur within the Project site.	MMs BIO-2 through BIO-5
Southern grasshopper mouse (*Onychomys torridus ramona*)	No	No	Suitable habitat is present throughout the Project site, with the nearest occurrence record located approximately 0.3-mile from the Project site. Thus, southern grasshopper mouse has a high potential to occur within the Project site.	MMs BIO-4 and BIO-5
Crotch bumble bee (*Bombus crotchii*)	No	No	Suitable habitat is present throughout the Project site, with the nearest occurrence record located approximately 0.7-mile from the Project site. Thus, Crotch bumble bee has a high potential to occur within the Project site.	MMs BIO-4 and BIO-6

Note: NCCP/HCP = Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan

Source: Michael Baker International, *Modjeska Grade Road Improvements Project, Unincorporated Orange County, California, Biological Resources Assessment*, December 2023; refer to Appendix B.

Overall, with implementation of MMs BIO-1 through BIO-8 and coverage under the NCCP/HCP, impacts to special-status wildlife species identified in Table 4.4-8 would be reduced to less than significant levels.

Mitigation Measures:

BIO-1 To ensure proper avoidance of special-status plant species, prior to construction, and during the appropriate blooming periods for special-status plant species with the potential to occur within the Project site, a qualified botanist shall conduct a focused rare plant survey in areas with suitable habitat to determine presence or absence of special-status plant species. The surveys shall be floristic in nature (i.e., identifying special-status plant species to the taxonomic level necessary to determine rarity), and shall be inclusive of, at a minimum, the areas proposed for development. Documentation of surveys and findings shall be submitted to the Orange County Public Works and the California Department of Fish and Wildlife (CDFW) for review.

If individual or populations of special-status plant species are found within the areas proposed for disturbance, measures to avoid and minimize impacts shall be recommended. The surveys and reporting shall follow the latest CDFW and/or California Native Plant Society guidelines.

Although not expected, if State- and/or federally-listed plant species are present and avoidance is infeasible, consultation with the CDFW and/or U.S. Fish and Wildlife Service (USFWS) would be required and an Incidental Take Permit(s) from the CDFW and/or USFWS shall be obtained prior to the commencement of maintenance activities.

BIO-2 A pre-construction clearance survey for special-status amphibian and reptile species shall be conducted 24-hours prior to installation of wildlife exclusion fencing (WEF), vegetation clearing, and/or initiation of ground disturbing activities. If any special-status amphibian or reptile species are found, the Project biologist shall relocate the animal(s) to appropriate habitat off-site. If a lapse in Project-related work of 15 days or longer occurs, another focused survey shall occur.

BIO-3 Prior to ground disturbing activities, the construction contractor shall install wildlife exclusion fencing (WEF) along the Project boundaries within suitable habitat prior to commencement of construction activities or staging of equipment, in order to prevent special status amphibian and reptile species individuals from entering the project area during construction activities:

- WEF shall be installed under the supervision of the qualified Project biologist;
- WEF shall consist of taught silt fencing supported by wooden stakes on the Project side only;
- WEF shall be buried a minimum of six (6) inches below ground and soil shall be compacted against the sides of the fence for its entire length to prevent special-status species from passing under the fence;
- WEF shall extend 12 to 18 inches above the ground;
- The construction contractor shall inspect the WEF daily, and WEF shall be maintained, and repaired where necessary, throughout construction to ensure that it is functional and without defects, that the fencing material is taught, and that the bottom edge of the fencing material remains buried;

- The Project biologist shall periodically inspect the WEF to ensure it remains functional and appropriately maintained throughout construction; and
- If any special-status wildlife species are found within WEF, construction activities in the vicinity shall cease and the Project biologist shall be notified to relocate the wildlife to suitable habitat outside of the Project area. Only the approved Project biologist shall handle or relocate special-status wildlife.

BIO-4 Construction pipes, culverts, or similar structures that are stored in the Project area for one or more overnight periods shall be securely capped prior to storage or thoroughly inspected by the construction contractor and/or the Project biologist for special-status wildlife species or other animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way.

BIO-5 To prevent inadvertent entrapment of special-status wildlife species during construction, the construction contractor and/or Project biologist shall ensure excavated, steep-walled holes or trenches more than six inches deep are provided with one or more escape ramps constructed of earthen fill or wooden planks. Before such holes or trenches are filled, holes and trenches shall be thoroughly inspected for trapped animals by the construction contractor and/or Project biologist.

BIO-6 A qualified biologist shall conduct up to three on-site surveys (two to four weeks apart per the California Department of Fish and Wildlife's [CDFW] recommendation) prior to ground disturbance following CDFW methodology as outlined in Survey Considerations for *California Endangered Species Act (CESA) Candidate Bumble Bee Species Surveys* (CDFW 2023c) during the optimal activity period (i.e., April through August). Surveys shall occur during the day (at least one hour after sunrise and at least two hours before sunset, though ideally between 9:00 a.m. and 1:00 p.m.) on warm, but not hot, sunny days (65 degrees Fahrenheit to 90 degrees Fahrenheit), with low wind (less than eight miles per hour [mph]), but surveying during partially cloudy days or overcast conditions are permissible if the surveyors can still see their own shadow.

If Crotch bumble bees or potential Crotch bumble bees (since bumble bees can be difficult to identify in the field) are observed within the site, a plan to protect Crotch bumble bee nests and individuals shall be developed and implemented in consultation with the CDFW. The plan shall include, but not be limited to, the following measures:

- If no protected Crotch bumble bees are found during the multiple rounds of focused surveys, but the habitat assessment identified suitable nesting, foraging, or overwintering habitat within the Project site, a biological monitor shall be on-site during vegetation or ground-disturbing activities that take place during the optimal activity period (i.e., April through August);
- Specifications for construction timing and sequencing requirements (e.g., avoidance of raking, mowing, tilling, or other ground disturbance from September 1st until late March 31st to protect overwintering queen bumble bees);
- Establishment of appropriate no-disturbance buffers for bumble bee nest sites to avoid impacts to the bees and construction monitoring by a qualified biologist to ensure compliance if bumble bee nests are identified;
- Restrictions associated with construction practices, equipment, or materials that may harm bumble bees (e.g., avoidance of pesticides/herbicides, best management practices to minimize the spread of invasive plant species);

- Provisions to avoid Crotch bumble bee or potential Crotch bumble bees if observed away from a bumble bee nest during Project activity (e.g., ceasing of Project activities until the animal has left the active work area on its own volition); and
- Prescription of an appropriate restoration seed mix targeted for the Crotch bumble bee, including native plant species known to be visited by native bumble bee species and containing a mix of flowering plant species with continual floral availability through the entire active season of the Crotch bumble bee (March 1st through September 30th).

BIO-7 Vegetation removal shall occur outside of the coastal California gnatcatcher/migratory bird nesting season (February 1st to September 31st); however, in the event vegetation removal is required during the nesting season, a pre-construction nesting bird survey shall be conducted within three days prior to vegetation removal.

In accordance with the Migratory Bird Treaty Act, a minimum 300-foot no-disturbance buffer shall be established around any active nest of migratory birds and a minimum 500-foot no-disturbance buffer shall be established around any nesting raptor or California Endangered Species Act/Federal Endangered Species Act listed species. The construction contractor shall immediately stop work in the buffer area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the Project biologist and in consultation with wildlife agencies) in the buffer area until a qualified biologist determines the young have fledged. A reduced buffer can be established if determined appropriate by the Project biologist and approved by wildlife agencies. The Project biologist shall monitor any known identified nest site(s) within or adjacent to the Project site and identified buffers, in coordination with and approved by the appropriate wildlife agencies.

BIO-8 During clearing or construction activities, no grading of chamise – sage chaparral habitat that is occupied by nesting coastal California gnatcatcher (*Polioptila californica californica*) shall occur during the breeding season (February 1st through September 31st). It is expressly understood that this provision and the remaining provisions of these "construction-related minimization measures" are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures, and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities shall provide the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) with the maximum practicable notice (or such notice as is specified in the Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) to allow for capture the capture of coastal California gnatcatcher, cactus wrens (*Campylorhynchus brunneicapillus sandiegensis*), and any other chamise – sage chaparral Identified Species that are not otherwise flushed and shall carry out the following measures only to the extent practicable in the context of the public health and safety considerations. The breeding season is now considered to be from February 1st through September 31st; therefore, these dates are applicable to this measure.

Prior to the commencement of grading activities or other activities involving substantial soil disturbance, areas of chamise – sage chaparral habitat to be avoided under the provisions of the NCCP/HCP shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the

commencement of grading activities or other activities involving disturbance of chamise – sage chaparral, a survey shall be conducted to locate coastal California gnatcatcher and cactus wrens within 100 feet of the outer extent of projected soil disturbance activities. The locations of any such species shall be clearly marked and identified on the construction/grading plans.

A monitoring biologist acceptable to the USFWS/CDFW shall be on-site during any clearing of chamise – sage chaparral. The landowner or relevant public agency/utility shall advise the USFWS/CDFW at least seven calendar days (preferably 14 calendar days) prior to the clearing of any habitat occupied by Identified Species to allow the USFWS/CDFW to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist shall flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they shall be captured in mist nets, if feasible, and relocated to areas of the Project site to be protected or to the NCCP/HCP Reserve System. It shall be the responsibility of the monitoring biologist to ensure that Identified Species shall not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.

Following the completion of initial grading/earth movement activities, areas of chamise – sage chaparral habitat to be avoided by construction equipment and personnel shall be marked with temporary fencing or other appropriate markers clearly visible to construction personnel. No construction access, parking, or storage of equipment or materials shall be permitted within such marked areas.

In areas bordering the NCCP/HCP Reserve System or Special Linkage/Special Management areas containing substantial chamise – sage chaparral identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations shall be restricted to a minimum number during construction consistent with Project construction requirements. Waste dirt or rubble shall not be deposited on adjacent chamise – sage chaparral identified in the NCCP/HCP for protection. Pre-construction meetings involving the monitoring biologist, construction supervisors, and equipment operators shall be conducted and documented to ensure maximum practicable adherence to these measures.

Chamise – sage chaparral identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.

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 Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact With Mitigation Incorporated. Based on the Biological Resources Assessment, 12 special-status vegetation communities were identified by the CNDDB as occurring in the USGS *El Toro*, *Black Star Canyon*, *Corona South*, and *Santiago Peak*, *California* 7.5-minute quadrangles including California Walnut Woodland, Canyon Live Oak Ravine Forest, Riversidian Alluvial Fan Sage Scrub, Southern California Arroyo Chub/Santa Ana

Sucker Stream, Southern California Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Interior Cypress Forest, Southern Riparian Forest, Southern Riparian Scrub, Southern Sycamore Alder Riparian Woodland, Southern Willow Scrub, and Valley Needlegrass Grassland.

According to the Biological Resources Assessment, one special-status vegetation community identified by the CNDDB, Southern Riparian Forest, was observed within the survey area during the field survey. Additionally, as mentioned above in Response 4.4(a), a total of four natural vegetation communities were observed and mapped within the boundaries of the survey area during the field survey: Chamise - sage chaparral, disturbed chamise - sage chaparral, coast live oak woodland and forest, and California sycamore - coast live oak riparian woodlands. Of the natural vegetation communities observed within the survey area, chamise - sage chaparral, coast live oak woodland and forest, and California sycamore - coast live oak riparian woodlands were observed within the Project site. The chamise – sage chapparal vegetation community is defined as non-coastal sage scrub habitat, within the coastal sage scrub habitat mosaic, at a level comparable to the protection provided for coastal sage scrub habitat within the Orange County Central/Coastal NCCP/HCP. Further, the Project site is located within "Unit 8 Santiago Creek, Orange County" of arroyo toad (*Anaxyrus californicus*) critical habitat. It is acknowledged that the portion of critical habitat anticipated to be impacted by the proposed Project is considered to be unsuitable habitat for arroyo toad according to the Biological Resources Assessment. However, informal consultation with the USFWS would be required due to the potential impacts to critical habitat.

To reduce impacts to chamise – sage chaparral, sensitive natural vegetation communities, and critical habitat, implementation of MMs BIO-8 through BIO-16 would be required. Refer to Section 4.4(a) above for a description of MM BIO-8.

MM BIO-9 requires the Project limits in the vicinity of Santiago Creek and associated riparian areas and natural vegetation communities along Modjeska Grade Road to be marked with high visibility Environmentally Sensitive Area (ESA) fencing or staking to ensure construction activities would not further encroach into those habitats.

MM BIO-10 requires Project personnel to attend a biological awareness training session delivered by the Project biologist.

MMs BIO-11 and BIO-12 would ensure best management practices (BMPs) are implemented to reduce erosion potential and minimize the potential for water quality pollutants to affect sensitive natural communities during construction activities.

MM BIO-13 requires riparian vegetation within temporary construction zones to be trimmed or cleanly cut to ground level and then covered with a layer of clean gravel or topsoil as necessary to protect plant viability and prevent damage to remaining root structures during construction activities.

MM BIO-14 requires the Project biologist to monitor construction activities within the vicinity of riparian habitats, riverine habitats and sensitive habitats of concern to ensure that vegetation removal, BMPs, ESAs, and all avoidance, minimization, mitigation measures are properly constructed and followed.

MM BIO-15 requires temporary impacts to jurisdictional waters, riparian woodland, and arroyo toad critical habitat during Project construction to be avoided and minimized to the greatest extent feasible. Mitigation for unavoidable temporary impacts would be required to be prescribed in a Habitat Mitigation and Monitoring Plan that identifies the approach to habitat restoration and/or enhancement and subsequent monitoring and maintenance of the site to restore the functions and values of the impacted habitat. Mitigation may also be achieved by payment of an in-lieu fee to an agency approved mitigation bank, or restoration and/or enhancement of similar habitats at off-site locations determined by OC Public Works. The Habitat Mitigation and Monitoring Plan and approach to mitigating temporary impacts must be coordinated with the regulatory agencies (i.e., CDFW, RWQCB, and USFWS) and require approval prior to Project implementation.

MM BIO-16 would ensure mature native trees located throughout the Project site (i.e., coast live oak, California sycamore, and southern California black walnut) along Modjeska Road are protected during Project construction activities. Prior to Project construction activities, MM BIO-16 would require a certified arborist to mark these mature native trees with tree trunk and limb protection wrap and signage. The tree trunk and limb protection warp material must be composed of double sided geocomposite, geonet core with non-woven covering (e.g., Tenax Tendrain 770/2) or equivalent. The tree trunk and limb protection wrap would be required to completely cover the tree, extending from the base of the tree (i.e., bottom of the trunk/root flare) to at least 10 feet in height or to the first tree limb. Tree protection signage must be attached directly to the tree trunk and limb protection wrap (i.e., to avoid contact with the tree trunk) or affixed to sign post installed adjacent to such trees. Tree trunk and limb protection wrap and signage must be removed upon completion of Project-related activities.

If the removal of trees cannot be avoided during construction activities, MM BIO-17 requires the County to replant any mature native trees removed from within the Project site, including natural communities of special concern within the Santa Ana River watershed. Within the Foothill/Trabuco Specific Plan area, any oak tree exceeding five inches in diameter at 4.5 feet above the existing grade, removed in accordance with an approved Tree Management/Preservation Plan, must be transplanted. Any oak tree over five inches in diameter that is in poor health and would not survive transplantation (as certified by an arborist), would require replacement with a minimum 15-gallon tree in accordance with the Foothill/Trabuco Specific Plan. Additionally, any sycamore tree exceeding 35-inches in diameter must be preserved, transplanted, or replaced by an identical species of equal or greater size. Sycamore trees less than 35-inches in diameter must be replaced in accordance with the Foothill/Trabuco Specific Plan. In the event all replacement trees cannot be accommodated on the Project site, an off-site mitigation program may be permitted; however, all replacement trees must be located within the Foothill/Trabuco Specific Plan area. Lastly, any species of tree (other than oak or sycamore trees) must be transplanted or replaced with a minimum 15-gallon tree at a replacement ratio of 1:1 in accordance with the Foothill/Trabuco Specific Plan.

With the implementation of MMs BIO-8 through BIO-17, the Project's potential impacts to chamise – sage chaparral, sensitive natural vegetation communities, and critical habitat would be reduced to a less than significant level.

Mitigation Measures: Refer to MM BIO-8 in Section 4.4(a).

BIO-9 Prior to ground disturbing activities, the Project limits in the vicinity of Santiago Creek and associated riparian areas and natural vegetation communities along Modjeska

Grade Road shall be marked with high visibility Environmentally Sensitive Area (ESA) fencing or staking to ensure construction activities shall not further encroach into those habitats. The fencing shall be installed under the supervision of the Project biologist (construction contractor- or County of Orange-supplied) and shall be inspected by the Project biologist at a minimum of once a month. If maintenance is required, the Project biologist shall provide instruction to the construction contractor.

BIO-10 Prior to ground disturbing activities, Project personnel shall attend a biological awareness training session delivered by the Project biologist. The biological awareness training shall include a description of special-status species and sensitive habitats, species identification characteristics, best management practices to be implemented, Project-specific avoidance measures that must be followed, and the steps necessary if special-status species are encountered during Project-related activities.

BIO-11 Contract specifications shall include the following best management practices (BMPs), where applicable, to reduce erosion during construction activities:

- Implementation of the Project shall require approval of a site-specific Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Program (WPCP) that shall implement effective measures to protect water quality, which may include a hazardous spill prevention plan and additional erosion prevention techniques;
- Existing vegetation shall be protected in place to provide an effective form of erosion and sediment control;
- Roughening and terracing shall be implemented to create unevenness on bare soil through the construction of furrows running across a slope, creation of stair steps, or by utilization of construction equipment to track the soil surface. Surface roughening or terracing reduces erosion potential by decreasing runoff velocities, trapping sediment, and increasing infiltration of water into the soil, and aiding in the establishment of vegetative cover from seed;
- Soil exposure must be minimized through the use of temporary BMPs, groundcover, and stabilization measures; and
- The contractor must conduct periodic maintenance of erosion and sediment-control measures.

BIO-12 To minimize the potential for water quality pollutants to affect sensitive natural communities, the Project shall implement the following:

- Vehicle maintenance, staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants must be a minimum of 50 feet from surface waters. Any necessary equipment washing must occur where the water cannot flow into surface waters. The Project specifications shall require the contractor to operate under an approved spill prevention and clean-up plan;
- Construction equipment shall not be operated in flowing water;
- Construction activities must be conducted according to site-specific construction plans that minimize the potential for sediment input to surface waters;
- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering surface waters;

- Equipment used in and around surface waters must be in good working order and free of dripping or leaking contaminants; and
- Any concrete rubble, asphalt, or other debris generated from construction activities must be taken to an approved disposal site.

BIO-13 Riparian vegetation within temporary construction zones shall be trimmed or cleanly cut to ground level and then covered with a layer of clean gravel or topsoil as necessary to protect plant viability and prevent damage to remaining root structures during construction.

BIO-14 The Project biologist shall monitor construction within the vicinity of riparian habitats, riverine habitats and sensitive habitats of concern to ensure that vegetation removal, best management practices, environmentally sensitive areas, and all avoidance, minimization, and mitigation measures are properly constructed and followed. In the event vegetation removal, best management practices, environmentally sensitive areas, and avoidance, minimization, and mitigation measures are not properly constructed and followed, the construction contractor shall immediately stop work within the vicinity of riparian habitats, riverine habitats and sensitive habitats of concern until the Project biologist determines compliance with the best management practices, environmentally sensitive areas, and avoidance, minimization, and mitigation measures.

BIO-15 Temporary impacts to jurisdictional waters, riparian woodland and arroyo toad (*Anaxyrus californicus*) critical habitat during Project construction shall be avoided and minimized to the greatest extent feasible. Mitigation for unavoidable temporary impacts shall be prescribed in a Habitat Mitigation and Monitoring Plan that identifies the approach to habitat restoration and/or enhancement and subsequent monitoring and maintenance of the site to restore the functions and values of the impacted habitat. The Habitat Mitigation and Monitoring Plan shall include the following:

- *Responsibilities and qualifications of the personnel to implement and supervise the plan*. The responsibilities of OC Public Works that would supervise and implement the plan will be specified.
- *Baseline Information*. Site conditions shall be documented for both the Project's impact areas as well as the locations identified for restoration in the design plans.
- *Site preparation and planting implementation*. Site preparation may include: (1) protection of existing native species; (2) trash and weed removal; (3) native species salvage and reuse (i.e., duff); (4) soil treatments (i.e., imprinting, decompacting); (5) temporary irrigation installation (if required); (6) erosion control measures (i.e., rice or willow wattles); (7) seed mix application; and (8) container species planting.
- *Schedule*. A schedule shall be developed which includes planting in late fall and early winter (between October 1 and January 30) or dictated by the regulatory agencies.
- *Maintenance Plan/Guidelines*. The Maintenance Plan shall include: (1) weed control; (2) herbivory control; (3) trash removal; (4) irrigation system maintenance, if required; (5) maintenance training; and (6) replacement planting.
- *Monitoring Plan*. The Monitoring Plan shall be described to include: (1) qualitative monitoring (i.e., photographs and general observations); (2) quantitative

monitoring (i.e., randomly placed transects); (3) performance criteria, as approved by the resource agencies; (4) monthly reports for the first year and reports every other month thereafter; and (5) annual reports, which shall be submitted to the resource agencies on a yearly basis, for five years.

- *Adaptive Management Plan*. General procedures for adaptive management shall be outlined based on known challenges within the area (i.e., drought stress, invasive pest mitigation). Following quantitative site assessments, patterns and trends related to site development shall be reviewed and recommendations shall be made to correct any issues identified.
- *Long-term Management*. Long-term management of the site shall be outlined in the Habitat Mitigation and Monitoring Plan to ensure the mitigation site is not impacted by future development.

Alternatively, mitigation shall be achieved by payment of an in-lieu fee to an agency approved mitigation bank, or restoration and/or enhancement of similar habitats at off-site locations determined by Orange County Public Works. The Habitat Mitigation and Monitoring Plan and approach to mitigating temporary impacts shall be coordinated with the regulatory agencies (i.e., the California Department of Fish and Wildlife, Regional Water Quality Control Board, and U.S. Fish and Wildlife Service) and require approval prior to Project implementation.

BIO-16 Prior to Project construction activities, the mature native trees located throughout the Project site (i.e., coast live oak, California sycamore, and southern California black walnut) along Modjeska Grade Road shall be marked with tree trunk and limb protection wrap and signage to ensure construction activities do not encroach into the mature native trees. The tree trunk and limb protection wrap shall be installed under the supervision of a certified arborist and shall be composed of double sided geocomposite, geonet core with non-woven covering (e.g., Tenax Tendrain 770/2) or equivalent material. The tree trunk and limb protection wrap shall completely cover the tree, extending from the base of the tree (i.e., bottom of the trunk/root flare) to at least 10 feet in height or to the first tree limb. Tree protection signage shall be attached directly to the tree trunk and limb protection wrap (i.e., to avoid contact with the tree trunk) or affixed to sign posts installed adjacent to such trees. Tree trunk and limb protection wrap and signage shall be removed upon completion of Project-related activities.

BIO-17 If on-site trees cannot be preserved during construction, Orange County Public Works, or their designee, shall replant/transplant any mature native trees removed from the Project site, including within natural communities of special concern within the Santa Ana River watershed. Specifically, within the Foothill/Trabuco Specific Plan area, any oak tree exceeding five inches in diameter at 4.5 feet above the existing grade, removed in accordance with an approved Tree Management/Preservation Plan, shall be transplanted. Any oak tree over five inches in diameter that is in poor health and would not survive transplantation (as certified by an arborist), shall be replaced with a minimum 15-gallon tree in accordance with the Foothill/Trabuco Specific Plan. Additionally, any sycamore tree exceeding 35-inches in diameter shall be preserved, transplanted, or replaced by an identical species of equal or greater size. Sycamore trees less than 35-inches in diameter shall be replaced in accordance with the Foothill/Trabuco Specific Plan. In the event all replacement trees cannot be accommodated on the Project site, an off-site mitigation program may be permitted;

however, all replacement trees shall be located within the Foothill/Trabuco Specific Plan area. Lastly, any species of tree (other than oak or sycamore trees) shall be transplanted or replaced with a minimum 15-gallon tree at a replacement ratio of 1:1.

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?

Less Than Significant Impact With Mitigation Incorporated. According to the Jurisdictional Delineation, the proposed Project would result in impacts to areas under Regional Water Quality Control Board (RWQCB) jurisdiction (i.e., Waters of the State) and CDFW jurisdiction. This includes impacts to 0.05-acre of non-wetland Waters of the State and CDFW jurisdictional areas consisting of 0.05-acre of streambed and 0.01-acre of associated riparian vegetation. As such, prior to the commencement of construction activities within RWQCB and CDFW jurisdictional areas, the Project would be required to obtain a Waste Discharge Requirements (WDR) from the RWQCB for impacts occurring within RWQCB jurisdictional areas and a Lake and Streambed Alteration Agreement (LSAA) from CDFW for impacts to CDFW jurisdictional areas, respectively. Upon obtaining regulatory approvals of a WDR and LSAA, the Project's potential impact to federally protected wetlands would be less than significant. Refer to Section 4.4(b) above for a description of MM BIO-15.With the implementation of MM BIO-15 and regulatory approvals of a WDR and LSAA, impacts to State or federally protected wetlands would be reduced to less than significant levels.

Mitigation Measures: Refer to MM BIO-15 in Section 4.4(b).

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?

Less Than Significant Impact. Wildlife corridors and linkages are key features for wildlife movement between habitat patches. Wildlife corridors are generally defined as those areas that provide opportunities for individuals or local populations to conduct seasonal migrations, permanent dispersals, or daily commutes, while linkages generally refer to broader areas that provide movement opportunities for multiple keystone/focal species or allow for propagation of ecological processes (e.g., for movement of pollinators), often between areas of conserved land.

According to the Biological Resources Assessment, areas surrounding the Project site are mostly undeveloped and are highly suitable for wildlife movement. However, the proposed Project would not inhibit or decrease wildlife movement or connectivity in the surrounding area. The Project site consists of an existing roadway and the proposed Project would not consist of any additional lanes of travel that could potentially fragment any of the surrounding habitat or impede wildlife movement. Further, construction associated with the Project would be temporary and not cause any permanent disturbance or impact to wildlife movement. It is acknowledged that the proposed construction activities may temporarily impede smaller wildlife movement with the installation of wildlife exclusion fencing; however, this level of disturbance is standard for a construction project, and would be intentional to reduce the risk of harm to wildlife traversing the Project site as a result of construction activities. Lastly, the proposed Project is not within any Special Linkage Areas within the Orange County Central and Coastal Subregion NCCP/HCP. Less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation is required.

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

Less Than Significant Impact With Mitigation Incorporated. Coast live oak, California sycamore, and southern California black walnut trees are classified as Protected Trees pursuant to County Code of Ordinances Section 7-9-69, *Tree Preservation Ordinance* (Tree Preservation Ordinance). Specifically, County Code of Ordinances Section 7-9-69.2, *Scope*, protects native oak trees and oak tree hybrids with a minimum diameter at breast height (DBH) of 8 inches for single-trunk trees and 12 inches for multi-trunk trees; southern California black walnut with a minimum DBH of 8 inches for a single-trunk tree and 12 inches for multi-trunk trees; and California sycamore with a minimum DBH of 12 inches for single-trunk trees. However, pursuant to County Code of Ordinances Section 7-9-69.2(d)(1), Protected Trees owned, operated, and/or maintained by the County are exempt from the provisions of the Tree Preservation Ordinance. Further, pursuant to County Code of Ordinances Section 7-9-69.2(d)(7), Protected Trees maintained by a public utility or any tree on County-owned property may be removed to provide for the installation of utilities and public facilities and maintenance of property, intended to fulfill the public utility's and facilities obligation to provide service to the public. Additionally, based on the Foothill/Trabuco Specific Plan, any oak tree within the Specific Plan area exceeding five inches in diameter at 4.5 feet above the existing grade, removed in accordance with an approved Tree Management/Preservation Plan, must be transplanted. Any oak tree over five inches in diameter that is in poor health and would not survive transplantation (as certified by an arborist), would require replacement with a minimum 15-gallon tree in accordance with the Foothill/Trabuco Specific Plan. Additionally, any sycamore tree exceeding 35-inches in diameter must be preserved, transplanted, or replaced by an identical species of equal or greater size. Sycamore trees less than 35-inches in diameter must be replaced in accordance with the Foothill/Trabuco Specific Plan. In the event all replacement trees cannot be accommodated on the Project site, an off-site mitigation program may be permitted; however, all replacement trees must be located within the Foothill/Trabuco Specific Plan area. Lastly, any species of tree (other than oak or sycamore trees) must be transplanted or replaced with a minimum 15-gallon tree at a replacement ratio of 1:1 in accordance with the Foothill/Trabuco Specific Plan.

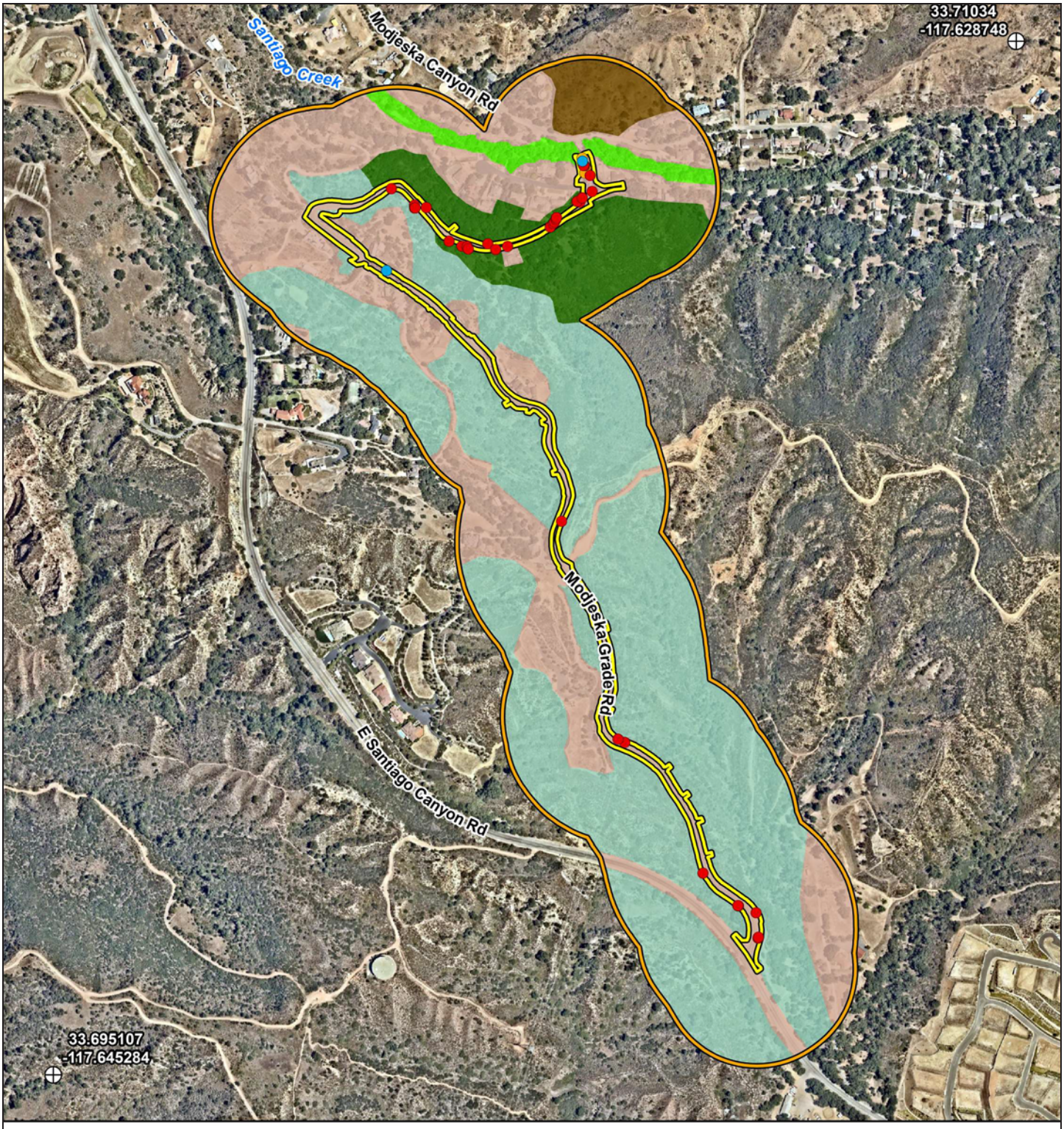
During Project construction, mature trees are anticipated to be preserved on-site; refer to Section 4.4(b) above for a description of MM BIO-16. However, if construction activities associated with the proposed Project require the removal of coast live oak, California sycamore, or southern California black walnut, the proposed Project would implement MM BIO-17 to reduce potential impacts to less than significant. Refer to Section 4.4(b) above for a description of BIO-17. As described in Section 2.0, *Project Description*, the proposed Project would provide roadway, drainage, and erosion control improvements on-site. These improvements would result in safety enhancements for residents and travelers along Modjeska Grade Road, in addition to surrounding uses along the corridor. Further, the proposed Project would improve long-term operational maintenance activities and reduce temporary and emergency maintenance needs within the Project area and project operations would not conflict with any local policies or ordinances protecting biological resources. With implementation of MMs BIO-16 and BIO-17, construction-related impacts would be reduced to less than significant impacts.

Mitigation Measures: Refer to MMs BIO-16 and BIO-17 in Section 4.4(b).

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?

Less Than Significant Impact With Mitigation Incorporated. According to the Biological Resources Assessment, the Project site is within the Orange County NCCP/HCP Plan Area, with the north end of the Project site located within NCCP/HCP Non-Reserve Open Space. The County is a participating local government, participating landowner, and the driving force behind the development of the NCCP/HCP. As a result, take coverage is extended to the County for Planned Activities. Both the construction of and maintenance of existing infrastructure facilities are considered Planned Activities under the NCCP/HCP; and thus, the proposed Project is covered under the NCCP/HCP. Areas within the NCCP/HCP Plan Area are covered under the take authorization issued to participants in the NCCP/HCP, while areas within the Non-Reserve Open Space are not. It should be noted that Non-Reserve Open Space refers to regional open spaces that were in public ownership prior to adoption of the NCCP/HCP. These open spaces are not subject to the development requirements associated with the Reserve system; however, these open spaces are recognized as integral components of the overall subregional conservation strategy. According to the Biological Resources Assessment, future proposals to convert coast sage scrub (chamise – sage chaparral) of "Take" covered species within the permanent Non-Reserve Open Space are not authorized or mitigated by the NCCP/HCP. Any proposed impacts involving incidental take within the Non-Reserve Open Space would require separate review by CDFW and USFWS in the same manner as provided for in "Existing Use Areas" to determine compliance with the applicable State and federal species protection laws/regulations. Nonetheless, as analyzed in Responses 4.4(a) and 4.4(b) above, with implementation of MMs BIO-1 through BIO-17 and coverage under the NCCP/HCP, impacts to special-status wildlife species and their habitat would be reduced to less than significant levels. As such, the Project would be consistent with the NCCP/HCP and would not conflict with any local habitat conservation plans. Impacts would be less than significant with mitigation incorporated.

Mitigation Measures: Refer to MMs BIO-1 through BIO-17 in Sections 4.4(a) and 4.4(b).



Legend

- Project Site
- Survey Area (500-foot Buffer)
- Reference Point
- California Sycamore - Coast Live Oak Riparian Woodlands (4.39 acres)
- Coast Live Oak Woodland and Forest (15.52 acres)
- Chamise-Sage Chaparral (93.01 acres)
- Disturbed Chamise-Sage Chaparral (4.73 acres)
- Disturbed/Developed (59.24 acres)
- California Sycamore
- Coast Live Oak
- Southern California Black Walnut

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Michael Baker INTERNATIONAL

NOT TO SCALE

04/2024 • JN 189853

Vegetation Communities and Other Land Uses

Exhibit 4.4-1

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4.5 Cultural Resources

Would the Project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

This section is primarily based upon the *Phase I Cultural Resources Assessment for the Modjeska Grade Road Improvements Project, County of Orange, California* (Cultural Resources Assessment), prepared by Michael Baker International, dated November 2023; refer to Appendix C, *Cultural Resources Assessment*.

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Less Than Significant With Mitigation Incorporated. As part of the Cultural Resources Assessment prepared for the proposed Project, a South Central Coastal Information Center (SCCIC) records search; historical topographic maps, photographs, and literature review; a Native American Heritage Commission (NAHC) Sacred Lands File search; historical society consultation; an archaeological field survey; and a buried site sensitivity analysis were conducted. These efforts were conducted to determine whether the Project could result in significant impacts to historical and archaeological resources in accordance with CEQA. The SCCIC records search included review of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Points of Historical Interest, California Historical Landmarks, Archaeological Resources Directory for Orange County, and Built Environment Resources Directory.

Based on the Cultural Resources Assessment, 55 cultural resources studies (15 of which address portions of the Project site) and 18 previously recorded cultural resources have been recorded within a half-mile radius of the Project site. The 18 cultural resources found within a half-mile of the site include eight prehistoric archaeological sites, three historic archaeological site, one prehistoric district (i.e., the upper Aliso Creek prehistoric district), five prehistoric isolates, and one historic built environment resource (building). According to the Cultural Resources

Assessment, none of the previously recorded cultural resources were identified within the Project site. Additionally, the NAHC returned negative results for the presence of known cultural resources on-site. No response has been received from the Orange Community Historical Society since the time the Cultural Resources Assessment was prepared.

Based on the Cultural Resources Assessment, given the lack of known prehistoric sites on-site, the developed and disturbed nature of Modjeska Grade Road and areas immediately adjacent to it, and the fact that much of the Project site lies within very old formations, the sensitivity for potential undocumented prehistoric and historic period archaeological sites is considered low. However, there is potential to encounter previously unknown cultural resources during grubbing, clearing, and/or excavation activities in previously undisturbed areas of the Project site during Project construction. As such, the Project would be required to implement Mitigation Measures (MM) CUL-1 and CUL-2. MM CUL-1 requires cultural resources sensitivity training be provided for all construction personnel. MM CUL-2 would ensure cultural resources are protected in the event previously unknown cultural resources are discovered during earthmoving activities. With implementation of MM CUL-1 and MM CUL-2, impacts would be less than significant in this regard.

Mitigation Measures:

CUL-1 Prior to ground disturbing activities, a qualified archaeologist shall conduct a pre-grading meeting with contractors to provide cultural resources sensitivity training for all construction personnel. The training shall describe the type of resources that may be identified, procedures to be followed during ground disturbance, and protocols that apply in the event that unanticipated resources are discovered. Only construction personnel who have received this training can conduct ground disturbing activities. The crew shall be cautioned not to collect artifacts, and directed to inform a construction supervisor and the on-site archaeological monitor in the event that cultural remains are discovered during the course of construction, including if a cultural resources monitor is not present. A qualified archaeologist is someone who either meets the Secretary of the Interior's Professional Qualification Standards for archaeology (48 Federal Register 44738) and is a Registered Professional Archaeologist or has a Bachelor of Arts in archaeology or a closely related field and is a Registered Archaeologist.

CUL-2 In the event that any cultural resources are encountered during earthmoving activities, all work within 50 feet of the find shall be halted until a qualified archaeologist can evaluate the findings and make recommendations. Prehistoric materials can include flaked-stone tools (e.g., projectile points, knives, choppers) or obsidian, chert, or quartzite toolmaking debris; culturally darkened soil (i.e., midden soil often containing heat-affected rock, ash, and charcoal, shellfish remains, and cultural materials); and stone milling equipment (e.g., mortars, pestles, handstones). Historical materials might include wood, stone, or concrete footings, walls, and other structural remains; debris-filled wells or privies; and deposits of wood, metal, glass, ceramics, and other refuse. The archaeologist may evaluate the find in accordance with federal, State, and local guidelines, including those set forth in the California Public Resources Code Section 21083.2, to assess the significance of the find and identify avoidance or other measures as appropriate. If suspected prehistoric or historical archaeological deposits are discovered during construction, all work within the immediate area of the discovery shall be redirected and the find must be evaluated for

significance by a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983).

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less Than Significant With Mitigation Incorporated. As discussed above in Response 4.5(a), the SCCIC records search identified no previously recorded prehistoric or historical cultural resources on-site. No isolated cultural resources, features, or prehistoric or historical archaeological sites were identified during the field survey of the accessible portions of the Project site.

According to the Cultural Resources Assessment, although the topsoil in the Project site comprises two to four feet of surficial Holocene-age colluvium and alluvium deposits, the entire road alignment (Modjeska Grade Road) has been graded down to the sandstones and conglomerates outcrops dating to the very old Eocene, Paleocene, and the Late Cretaceous epoch. Thus, the Cultural Resources Assessment concluded that soil deposition on-site is low due to the location on steep slopes, disturbed nature of the site, and soil composition (older sediment deposits) that have no potential for yielding significant buried archaeological resources. However, there is potential to encounter previously unknown cultural resources during grubbing, clearing, and/or excavation activities in previously undisturbed areas of the Project site during Project construction. As such, the Project would implement MMs CUL-1 and CUL-2 to reduce potential impacts to previously unknown cultural resources. MM CUL-1 would ensure cultural resources sensitivity training be provided for all construction personnel. MM CUL-2 would ensure cultural resources are protected in the event previously unknown cultural resources are discovered during earthmoving activities. With implementation of MM CUL-1 and CUL-2, impacts would be less than significant in this regard.

Mitigation Measures: Refer to MMs CUL-1 and CUL-2 in Section 4.5(a).

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact With Mitigation Incorporated. According to the Culture Resources Assessment, buried site sensitivity is low due to lack of known resources within the Project site, existing ground disturbance associated with roadway development, and presence of very old formations. As such, it is not anticipated that human remains, including those interred outside of formal cemeteries, would be encountered during earth removal or ground-disturbing activities. Nonetheless, if human remains are found, the Project would implement MM CUL-3, which would require those remains receive proper treatment in accordance with applicable laws. State of California Public Resources Health and Safety Code Section 7050.5 through 7055 describe the general provisions for human remains. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are accidentally discovered during excavation of a site. As required by State law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code would be implemented, including notification of the County Coroner, notification of the Native American Heritage Commission, and consultation with the individual identified by the Native American Heritage Commission to be the most likely descendant. If human remains are found during excavation, excavation must stop near the find and any area that is reasonably suspected to overlay adjacent remains until the County Coroner has been notified, the remains have been investigated, and appropriate recommendations have

been made for the treatment and disposition of the remains. With implementation of MM CUL-3, impacts related to the disturbance of human remains are less than significant.

Mitigation Measures:

CUL-3 In the event human remains are found during the project construction phase, those remains shall receive proper treatment in accordance with applicable laws. State of California Public Resources Health and Safety Code Section 7050.5 through 7055 describe the general provisions for human remains. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are accidentally discovered during excavation of a site. As required by State law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code shall be implemented, including notification of the County of Orange Coroner, notification of the Native American Heritage Commission, and consultation with the individual identified by the Native American Heritage Commission to be the most likely descendant. If human remains are found during excavation, excavation shall stop near the find and any area that is reasonably suspected to overlay adjacent remains until the County of Orange Coroner has been notified, the remains have been investigated, and appropriate recommendations have been made for the treatment and disposition of the remains.

4.6 Energy

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

a) 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.

The Project does not introduce new uses which would require new permanent energy usage. While the proposed Project would provide roadway, drainage, and erosion control improvements, the Project would not increase the roadway capacity of the Modjeska Grade Road or represent a trip generating land use. As a result, Project operations would not result in increased energy consumption from electricity, natural gas, or operational fuel usage. As such, this analysis focuses on one source of energy that is relevant to the proposed Project: on-road (automotive) fuel consumption associated with construction vehicle trips and off-road fuel consumption associated with construction equipment usage.

The California Emissions Estimator Model (CalEEMod) version 2022.1 was utilized to calculate the Project's fuel consumption during construction; refer to Appendix A, *Air Quality/Greenhouse Gas Emissions/Energy Data*, for the CalEEMod outputs and results. The Project's construction equipment fuel consumption is estimated from the Project's construction equipment, timing/phasing, and hours of duration for construction equipment as modeled in CalEEMod. The Project's construction automotive fuel consumption is estimated using the California Air Resources Board (CARB) Emissions Factor 2021 (EMFAC2021) database, which provides projections for typical daily fuel (i.e., diesel and gasoline) usage in the County, and the Project-generated trips during construction as projected in CalEEMod.

The Project's estimated construction-related energy consumption is summarized in Table 4.6-1, *Energy Consumption*. As shown in Table 4.6-1, the Project would increase the off-road fuel consumption within the County by 0.1187 percent and on-road vehicle fuel consumption by 0.0015 percent during construction.

Table 4.6-1: Energy Consumption

Energy Type	Project Annual Energy Consumption[1]	Orange County Annual Energy Consumption[2]	Percentage Increase Countywide[2]
Fuel Consumption			
Construction Off-Road Fuel Consumption	119,058 gallons	100,261,094 gallons	0.1187%
Construction On-Road Fuel Consumption	19,803 gallons	1,280,285,436 gallons	0.0015%

Notes:
1. Project electricity consumptions as modeled in California Emissions Estimator Model Version 2022.1 (CalEEMod) computer model. Project fuel consumption calculated based on CalEEMod results.
2. The Project increases in construction off-road and on-road fuel consumption are compared with the projected Countywide off-road fuel consumption and Countywide on-road fuel consumption in 2025 (first year of construction). Countywide off-road construction equipment diesel fuel consumption and on-road fuel consumption are from CARB EMFAC2021.

Refer to Appendix A for methodology and assumptions used in this analysis, as well as CalEEMod outputs and results.

Project construction would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during grubbing and land clearing, grading and excavation, installing sub-grade drainage and utilities, and paving. Fuel energy consumed during construction would be temporary and would not represent a significant demand on energy resources. In addition, some incidental energy conservation would occur during construction through compliance with State requirements that equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with the latest U.S. Environmental Protection Agency (EPA) and CARB engine emissions standards. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction. There is growing recognition among developers and retailers that sustainable construction is not prohibitively expensive, and that there is a significant cost-savings potential in green building practices and materials.

Substantial reductions in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than non-recycled materials. The Project-related incremental increase in energy use during the production of typical roadway construction materials such as asphalt, steel, concrete, pipes and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. It is reasonable to assume that production of construction materials would employ all reasonable energy conservation practices in the interest in minimizing the cost of doing business.

As indicated in Table 4.6-1, the Project's off-road fuel consumption and on-road fuel consumption from construction would be approximately 119,058 gallons and 19,803 gallons, respectively. Consequently, the Project's off-road construction equipment diesel fuel consumption and on-road

construction fuel consumption would increase Orange County's consumption by 0.1187 percent and 0.0015 percent, respectively. As such, Project construction would have a minimal effect on the local and regional energy supplies and would not require additional capacity. There are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. Therefore, construction fuel consumption would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. A less than significant impact would occur in this regard.

Mitigation Measures: No mitigation measures are required.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. As stated above in Response 4.6(a), Project operations would not have operational energy, natural gas, or fuel consumption. The Project would not involve a trip generating land use and would not directly increase the existing vehicular trips on the roadway. The Project would include fuel consumption during construction; however, this fuel consumption would cease immediately once construction is complete. As the Project would not have any operational energy, natural gas, or fuel consumption, the Project would not conflict with any State or local plan for renewable energy or energy efficiency. A less than significant impact would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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4.7 Geology and Soils

Would the Project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? 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 onsite or offsite 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 system 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?	☐	☒	☐	☐

This section is primarily based upon the following technical studies included in Appendix D, *Geotechnical and Paleo Reports*:

- *Geotechnical Report, Modjeska Grade Road Improvements, Modjeska Canyon* (Geotechnical Report), prepared by Diaz • Yourman & Associates (DYA), dated October 30, 2023; and
- *Paleontological Resources Identification Report, Modjeska Grade Road Improvements Project* (Paleo Report), prepared by Michael Baker International, dated November 2023.

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. Southern California, including the Project area, is subject to the effects of seismic activity due to the active faults that traverse the area. Active faults are defined as those that have experienced surface displacement within Holocene time (approximately the last 11,000 years) and/or are in a State-designated Alquist-Priolo Earthquake Fault Zone.

According to the Geotechnical Report, the Project site is not located within an official Alquist-Priolo Earthquake Fault Zone. According to the Geotechnical Report, a north-to-northwest-trending geologic fault underlies the Project site; however, the fault is believed to be non-active and would likely have little to no impact on the proposed Project improvements. According to the USGS's online interactive map tool *U.S. Quaternary Faults*, the nearest known fault zone is the

Elsinore fault zone, located approximately 8.6 miles to the northeast of the site.[1] As such, no impact would occur in this regard.

Mitigation Measures: No mitigation measures are required.

ii) Strong seismic ground shaking?

Less Than Significant Impact. Southern California has numerous active seismic faults subjecting residents to potential earthquake and seismic-related hazards. Seismic activity poses two types of potential hazards for residents and structures, categorized either as primary or secondary hazards. Primary hazards include ground rupture, ground shaking, ground displacement, subsidence, and uplift from earth movement. Primary hazards can also induce secondary hazards such as ground failure (lurch cracking, lateral spreading, and slope failure), liquefaction, water waves (seiches), movement on nearby faults (sympathetic fault movement), dam failure, and fires.

As stated above, the nearest known fault zone is the Elsinore fault zone, located approximately 8.6 miles to the northeast of the site.[2] According to the Geotechnical Report, a north-to-northwest-trending geologic fault underlies the Project site. The fault is believed to be non-active and would likely have little to no impact on the proposed Project improvements.

Given the proximity of known faults and its location in Southern California, the site would likely experience strong seismic ground shaking in the future. However, as a roadway improvement Project, the Project would not increase the probability of seismic ground shaking or develop any habitable structures. Further, design of the proposed improvements would comply with provisions within the California Building Code (CBC). Additionally, the Geotechnical Report includes a number of recommendations regarding seismic design, earthwork (i.e., site preparation and grading, excavations and temporary slopes, permanent slopes, drainage and infiltration, and erosion), retaining wall type selection, foundation design, resistance to lateral loads and lateral earth pressures, utility trenches, pavement thickness design, and soil corrosion considerations, among others. Thus, the Project would not expose people or structures to substantial adverse effects related to strong seismic ground shaking. Following adherence to the CBC and implementation of the site-specific seismic design recommendations identified in the Geotechnical Report, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation measures are required.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high-intensity ground shaking. Liquefaction occurs when three general conditions coexist: 1) shallow groundwater; 2) low density non-cohesive (granular) soils; and 3) high-intensity ground motion. Saturated, loose to medium dense, near surface cohesionless soils exhibit the highest liquefaction potential, while dry, dense, cohesionless soils and cohesive soils exhibit low to negligible liquefaction potential. In general,

[1] United States Geological Survey, *U.S. Quaternary Faults*, https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf, accessed November 21, 2023.

[2] Ibid.

cohesive soils are not considered susceptible to liquefaction. Effects of liquefaction on level ground include settlement, sand boils, and bearing capacity failures below structures. Dynamic settlement of dry loose sands can occur as the sand particles tend to settle and densify as a result of a seismic event.

Based on Figure 6, *Seismic Hazards*, of the Geotechnical Report, the northernmost portion of the Project site (alignment between Shadowland Circuit and Modjeska Canyon Road) is located within a liquefaction hazard zone. However, based on the Geotechnical Report, the subsurface conditions encountered during the subsurface exploration conducted as part of the Geotechnical Report are not typically associated with liquefaction. Further, according to the Geotechnical Report, the Project site is approximately 700 feet above the groundwater levels measured in nearby monitoring wells. As such, the Geotechnical Report determined that the subsurface sandy soils on-site would not be subject to liquefaction and/or seismic settlement. Additionally, the Geotechnical Report includes a number of recommendations regarding seismic design, earthwork (i.e., site preparation and grading, excavations and temporary slops, permanent slopes, drainage and infiltration, and erosion), retaining wall type selection, foundation design, resistance to lateral loads and lateral earth pressures, utility trenches, pavement thickness design, and soil corrosion considerations, among others. With adherence to the CBC and implementation of the site-specific design recommendations identified in the Geotechnical Report, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation measures are required.

iv) Landslides?

Less Than Significant Impact. According to the Geotechnical Report, some of the hillsides adjacent to the proposed Project alignment are mapped within an area that is susceptible to seismically induced landslides. Proposed improvements would occur mostly within existing roadway right-of-way and would not encroach onto slopes associated with these susceptible landslide areas. Additionally, the Geotechnical Report includes a number of recommendations regarding seismic design, earthwork (i.e., site preparation and grading, excavations and temporary slops, permanent slopes, drainage and infiltration, and erosion), retaining wall type selection, foundation design, resistance to lateral loads and lateral earth pressures, utility trenches, pavement thickness design, and soil corrosion considerations, among others. With adherence to the CBC and implementation of the site-specific design recommendations identified in the Geotechnical Report, the Project would not exacerbate existing geological hazards including landslides and impacts in this regard would be less than significant.

Mitigation Measures: No mitigation measures are required.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. According to the Geotechnical Report, the geologic units surrounding the Project site generally have low to severe erosion potential based on the composition, competency, and cementation of the surrounding geologic units; the degree of weathering of the formation; and the presence, orientation, and degree of weathering of bedding planes and joints, where present.

Grading activities required for Project implementation would result in exposed soils that may be subject to wind and water erosion. However, as discussed under Response 4.10(a), the Project

would include preparation of a stormwater pollution prevention plan (SWPPP) and implementation of construction best management practices (BMPs; refer to the list of construction BMPs noted under Response 4.10[a]) pursuant to the provisions of the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. Upon compliance with applicable regulatory requirements, including the NPDES Construction General Permit, Project construction would not result in substantial soil erosion or the loss of topsoil, and less than significant impacts would occur in this regard.

At Project completion, the Project site would not include large areas of exposed soil that would be subject to runoff. Rather, the Project would provide roadway improvements including pavement rehabilitation and paved roadway shoulders. Drainage improvements would include concrete-lined v-ditches, and asphalt concrete dikes along the roadway edges to channelize storm flows and reduce the potential for erosion on-site. Additional improvements would include replacing or upsizing the existing storm drain pipes and installing new inlets and underground storm drain pipes within Project limits to adequately capture and convey on-site stormwater flows. Energy dissipation measures including tee dissipators and rip rap fascines would be installed to the system outlets to minimize erosion, turbulence, and turbidity since the Project discharges indirectly to the Santiago Creek and Aliso Creek, which are not engineered or hardened and are susceptible to hydromodification. The erosion of side slopes on-site would be reduced by installing erosion control measures such as hydroseed, open weave textile, and turf reinforcement mats. As such, Project implementation would not result in substantial soil erosion or the loss of topsoil, and less than significant impacts would occur during Project operation.

Mitigation Measures: No mitigation measures are required.

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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact. Refer to Responses 4.7(a)(iii), 4.7(a)(iv), and 4.7(d) for a discussion concerning liquefaction, landslides, and expansive soils.

Lateral spreading is limited displacement ground failure, often associated with liquefaction. Lateral spreading is typically exemplified by the formation of vertical cracks on the surface of liquefied soils, and usually takes place on gently sloping ground or level ground with nearby free surface such as a drainage or stream channel. Subsidence can occur in various ways during an earthquake. Large areas of land can subside drastically during an earthquake because of offset along fault lines; land subsidence can also occur as a result of settling and compacting of unconsolidated sediment (i.e., settlement) from seismic shaking. As discussed under Response 4.7(a)(iii), the Geotechnical Report determined that the subsurface sandy soils on-site would not be subject to liquefaction and/or seismic settlement, and impacts would be less than significant. Thus, the probability of lateral spreading or subsidence (seismic settlement) occurring during a seismic event is also considered to be unlikely. Less than significant impacts would occur in this regard.

Collapsible soils generally have loose soil structures that can greatly decrease in volume upon wetting, additional loading, or both. Soil collapse typically occurs due to the addition of water. According to the Geotechnical Report, the Project site is approximately 700 feet above the groundwater levels measured in nearby monitoring wells. Additionally, as discussed under Response 4.7(a)(iii), the Geotechnical Report determined that the subsurface sandy soils on-site

would not be subject to liquefaction and/or seismic settlement. As such, impacts in this regard would be less than significant.

Furthermore, the Geotechnical Report includes a number of recommendations regarding seismic design, earthwork (i.e., site preparation and grading, excavations and temporary slops, permanent slopes, drainage and infiltration, and erosion), retaining wall type selection, foundation design, resistance to lateral loads and lateral earth pressures, utility trenches, pavement thickness design, and soil corrosion considerations, among others. Following adherence to the CBC and implementation of the site-specific design recommendations identified in the Geotechnical Report, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact. Expansive soils are those that undergo volume changes as moisture content fluctuates, swelling substantially when wet or shrinking when dry. Typically, expansive soils are those with expansive swelling clay minerals. Soil expansion can damage structures by cracking foundations, causing settlement, and distorting structural elements.

Based on the Geotechnical Report, the Project site consists primarily of medium dense to very dense coarse-grained soils (e.g., sands) with isolated areas of fine-grained soils (e.g., silts and clays); thus, due to the presence of clay composed soils, the Project site could be underlain by expansive soils. However, proposed improvements primarily consist of roadway, drainage, and erosion control improvements; no occupiable buildings are proposed. Nonetheless, the Geotechnical Report includes a number of recommendations regarding seismic design, earthwork, retaining wall type selection, foundation design, resistance to lateral loads and lateral earth pressures, utility trenches, pavement thickness design, and soil corrosion considerations, among others. Further, design of the proposed improvements would comply with provisions within the CBC. With adherence to the CBC and implementation of the site-specific design recommendations identified in the Geotechnical Report, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation measures are required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal system where sewers are not available for the disposal of waste water?

No Impact. No septic tanks or alternative wastewater systems would be constructed as part of the Project. Thus, no impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant With Mitigation Incorporated. As part of the Paleo Report, a fossil locality search at the Natural History Museum of Los Angeles County (NHMLA), and literature

and geologic map review were conducted; refer to Appendix D. These efforts identified the paleontological sensitivity of the Project area and determined whether the Project could result in significant impacts to paleontological resources in accordance with the CEQA.

Based on the Paleo Report, no paleontological resources were identified within the Project site. However, several hundred fossil localities have been found within five miles of the Project area from similar rock formations to those underlying the Project site. Per mitigation impact guidelines set forth by the Society of Vertebrate Paleontology, due to the fossil sensitivity of the rock formations present within the Project area (young axial channel deposits of Holocene to late Pleistocene age, Eocene Santiago Formation, Paleocene Silverado Formation, Late Cretaceous Pleasants Sandstone and Schulz Ranch Members of the Williams Formation, and Late Cretaceous Baker Canyon Member of the Ladd Formation), the Paleo Report concluded that the Project has a high potential to disturb paleontological resources within undisturbed bedrock.

As such, the Project would be required to implement MM GEO-1, which would require: (1) paleontological sensitivity training to be provided to all relevant personnel; (2) paleontological monitoring to be conducted during ground disturbance activities; and finally, (3) if unknown paleontological resources are discovered during earthwork, construction activities would be redirected, the find would be evaluated for significance, and treatment recommendations would be provided. With implementation of MM GEO-1, Project impacts to unknown paleontological resources would be reduced to less than significant levels.

Mitigation Measures:

GEO-1 The Orange County Public Works (OC Public Works) shall retain a Society of Vertebrate Paleontology (SVP) -qualified paleontologist to provide or supervise a paleontological sensitivity training to all personnel planned to be involved with earth-moving activities, prior to grading or excavation in sedimentary rock material other than topsoil. The training session shall focus on how to identify paleontological resources, such as fossils that may be encountered, and the procedures to follow if identified.

A qualified professional paleontologist is a professional with a graduate degree in paleontology, geology, or related field, with demonstrated experience in the vertebrate, invertebrate, or botanical paleontology of California, as well as at least one year of full-time professional experience or equivalent specialized training in paleontological research (i.e., the identification of fossil deposits, application of paleontological field and laboratory procedures and techniques, and curation of fossil specimens), and at least four months of supervised field and analytic experience in general North American paleontology.

Prior to grading or excavation in sedimentary rock material other than topsoil, OC Public Works shall retain an SVP-qualified paleontologist to monitor or supervise the monitoring of these activities. In the event that paleontological resources are encountered during earth-disturbing activities, the paleontological monitor, in discussion with the SVP-qualified paleontologist, shall notify the on-site construction supervisor, who shall redirect construction activities within 50 feet of the discovery. The qualified paleontologist shall evaluate the find. If the qualified paleontologist finds that the resource is not a significant fossil, then work may resume immediately. If the qualified paleontologist finds the resource is potentially significant, then the qualified

paleontologist shall make recommendations for appropriate treatment in accordance with Society for Vertebrate Paleontology guidelines for identification, evaluation, disclosure, avoidance, recovery, and/or curation, as appropriate.

If the fossils are determined to be significant, then the SVP-qualified paleontologist shall prepare and implement a data recovery plan. The plan shall include, but not be limited to, the following measures:

- The paleontologist shall ensure that all significant fossils collected are cleaned, identified, catalogued, and permanently curated with an appropriate institution with a research interest in the materials (which may include the County of Orange Paleontology and Archaeology Collections);
- The paleontologist shall ensure that specialty studies are completed, as appropriate, for any significant fossil collected; and
- The paleontologist shall ensure that curation of fossils is completed in consultation with the OC Public Works. A letter of acceptance from the curation institution shall be submitted to the OC Public Works.

4.8 Greenhouse Gas Emissions

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

Global Climate Change

California is a substantial contributor of global greenhouse gases (GHGs), emitting approximately 369.2 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) in 2020.[1] Methane (CH_4) is also an important GHG that potentially contributes to global climate change. GHGs are global in their effect, which is to increase the earth's ability to absorb heat in the atmosphere. As primary GHGs have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is mostly independent of the point of emission. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation will be required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

The impact of human activities on global climate change is apparent in the observational record. Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of CO_2, CH_4, and nitrous oxide (N_2O) from before the start of industrialization (approximately 1750), to over 650,000 years ago. For that period, it was found that CO_2 concentrations ranged from 180 to 300 parts per million (ppm). For the period from approximately 1750 to the present, global CO_2 concentrations increased from a pre-industrialization period concentration of 280 ppm to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range. As of August 2023, the highest monthly average concentration of CO_2 in the atmosphere was recorded at 420.97 ppm.[2]

[1] California Air Resources Board, *California Greenhouse Gas Emissions for 2000 to 2020, Trends* of Emissions and Other Indicators, https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/2000-2020_ghg_inventory_trends.pdf, October 26, 2022.

[2] Scripps Institution of Oceanography, *The Keeling Curve, Carbon Dioxide Concentration at Mauna Loa Observatory*, https://scripps.ucsd.edu/programs/keelingcurve/, accessed August 8, 2023.

Regulatory Framework

Federal

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of GHGs at 400 to 450 ppm carbon dioxide equivalent (CO_2e)[3] concentration is required to keep global mean warming below 2 degrees Celsius (^oC), which in turn is assumed to be necessary to avoid dangerous climate change.

To date, no national standards have been established for nationwide GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level. Various efforts, summarized below, have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

State of California

Various Statewide and local initiatives to reduce the State's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is under way, and there is a real potential for severe adverse environmental, social, and economic effects in the long term.

California Global Warming Solutions Act of 2006 (Assembly Bill 32)

The primary act that has driven GHG regulation and analysis in California is the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) (Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599), which instructs the California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. The act directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. The heart of the bill is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020.

Executive Order S-3-05

Executive Order S-3-05 set forth a series of target dates by which Statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

[3] Carbon Dioxide Equivalent (CO_2e) – A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

Senate Bill 32

Signed into law on September 2016, Senate Bill (SB) 32 codifies the 2030 GHG reduction target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030.

CARB Scoping Plan

On December 11, 2008, CARB adopted the *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce CO_2e emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 million MT CO_2e under a business as usual (BAU)[4] scenario. This is a reduction of 42 million MT CO_2e, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.

The Scoping Plan calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. The measures described in the Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.

AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. The Scoping Plan update also looks beyond 2020 toward the 2050 goal, established in Executive Order S-3-05, and observes that "a mid-term statewide emission limit will ensure that the State stays on course to meet our long-term goal."

On December 15, 2022, CARB released the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan), which identifies the strategies achieving carbon neutrality by 2045 or earlier. The 2022 Scoping Plan contains the GHG reductions, technology, and clean energy mandated by statutes. The 2022 Scoping Plan was developed to achieve carbon neutrality by 2045 through a substantial reduction in fossil fuel dependence, while at the same time increasing deployment of efficient non-combustion technologies and distribution of clean energy. The plan would also reduce emissions of short-lived climate pollutants (SLCPs) and would include mechanical CO_2 capture and sequestration actions, as well as emissions and sequestration from natural and working lands and nature-based strategies. Under 2022 Scoping Plan, by 2045, California aims to cut GHG emissions by 85 percent below 1990 levels, reduce smog-forming air pollution by 71 percent, reduce the demand for liquid petroleum by 94 percent compared to current usage, improve health and welfare, and create millions of new jobs. This plan also builds

[4] "Business as Usual" refers to emissions that would be expected to occur in the absence of GHG reductions; refer to http://www.arb.ca.gov/cc/inventory/data/bau.htm. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.

upon current and previous environmental justice efforts to integrate environmental justice directly into the plan, to ensure that all communities can reap the benefits of this transformational plan. Specifically, this plan:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 and a reduction in anthropogenic emissions by 85 percent below 1990 levels.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as driving principles throughout the document.
- Incorporates the contribution of natural and working lands (NWL) to the State's GHG emissions, as well as their role in achieving carbon neutrality.
- Relies on the most up-to-date science, including the need to deploy all viable tools to address the existential threat that climate change presents, including carbon capture and sequestration, as well as direct air capture.
- Evaluates the substantial health and economic benefits of taking action.
- Identifies key implementation actions to ensure success.

Regional Transportation Plan/Sustainable Communities Strategy

On September 3, 2020, Southern California Association of Governments (SCAG) adopted the 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (2020–2045 RTP/SCS). The SCS portion of the 2020-2045 RTP/SCS highlights strategies for the region to reach the regional target of reducing GHGs from autos and light-duty trucks by 8 percent per capita by 2020, and 19 percent by 2035 (compared to 2005 levels). Specifically, these strategies are:

- 1.0 - Focus growth near destinations and mobility options;
- 2.0 - Promote diverse housing choices;
- 3.0 - Leverage technology innovations;
- 4.0 - Support implementation of sustainability policies; and
- 5.0 - Promote a green region.

Furthermore, the 2020-2045 RTP/SCS discusses a variety of land use tools to help achieve the State-mandated reductions in GHG emissions through reduced per capita vehicle miles traveled (VMT). Some of these tools include center focused placemaking, focusing on priority growth areas, job centers, transit priority areas, as well as high quality transit areas and green regions.

The most recent RTP/SCS (Connect SoCal 2024) was approved by SCAG's Regional Council in April 2024. Connect SoCal 2024 outlines a vision for a more resilient and equitable future, with investment, policies, and strategies for achieving the region's shared goals through 2050. Connect SoCal 2024 sets forth a forecasted regional development pattern which, when integrated with the transportation network, measures, and policies, would reduce GHG emissions from automobiles and light-duty trucks and achieve the GHG emissions reduction target for the region set by the CARB. In addition, Connect SoCal 2024 is supported by a combination of transportation and land use strategies that outline how the region can achieve California's GHG-emission-reduction goals

and federal Clean Air Act requirements. These are articulated in a set of Regional Strategic Investments, Regional Planning Policies, and Implementation Strategies. The Regional Planning Policies are a resource for County Transportation Commissions (CTCs) and local jurisdictions, who can refer to specific policies to demonstrate alignment with the RTP/SCS when seeking resources from State or federal programs. The Implementation Strategies articulate priorities for SCAG efforts in fulfilling or going beyond the Regional Planning Policies.

Significance Criteria

The County has not adopted a qualifying climate action plan (CAP) or a numerical significance threshold for assessing impacts related to GHG emissions. Similarly, the South Coast Air Quality Management District (SCAQMD), CARB, or any other State or regional agency has not yet adopted a numerical significance threshold for assessing GHG emissions that applies to the Project. Since there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the Project's impacts related to GHG emissions focuses on its consistency with Statewide and regional plans adopted for the purpose of reducing and/or mitigating GHG emissions including CARB's Scoping Plan and SCAG's RTP/SCS. The evaluation of consistency with such plans would be the sole basis for determining the significance of the Project's GHG-related impacts on the environment.

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?

Less Than Significant Impact.

Project-Related Greenhouse Gas Emissions

As discussed above, the County has not established a numerical significance threshold for assessing impacts related to GHG emissions. Notwithstanding, for informational purposes, the analysis also calculates the amount of GHG emissions that would be attributable to the Project using recommended air quality models, as described below. The primary purpose of quantifying the Project's GHG emissions is to satisfy State CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The estimated emissions inventory is also used to determine if there would be a reduction in the Project's incremental contribution of GHG emissions as a result of compliance with regulations and requirements adopted to implement plans for the reduction or mitigation of GHG emissions. However, the significance of the Project's GHG emissions impacts is not based on the amount of GHG emissions resulting from the Project.

The most recent version of the California Emissions Estimator Model (CalEEMod), version 2022.1 was used to calculate Project-related GHG emissions. Project-related GHG emissions would include direct emissions from construction activities. As the Project does not propose the development of any buildings and would not introduce new stationary sources, no GHG emissions associated with Project operations (such as those from area sources, refrigerants, energy consumption, water demand, and sold waste generation) are anticipated or quantified. Additionally, while the proposed Project would provide roadway, drainage, and erosion control improvements, the Project would not increase the roadway capacity of the Modjeska Grade Road

or represent a trip generating land use that would result in mobile sources emissions during Project operations.

Table 4.8-1, Estimated Greenhouse Gas Emissions, presents the estimated GHG emissions of the proposed Project. Refer to Appendix A, *Air Quality/Greenhouse Gas/Energy Data*, for the CalEEMod outputs and results.

Table 4.8-1: Estimated Greenhouse Gas Emissions

Source	CO_2	CH_4	N_2O	Refrigerants	CO_2e
	Metric Tons/year[1]				
Direct GHG Emissions					
Construction (amortized over 30 years)	57.18	<0.01	<0.01	0.01	57.41
Total Emissions[2]	***57.41 $MTCO_2e$***				

Notes:
1. Emissions calculated using California Emissions Estimator Model Version 2022.1 (CalEEMod) computer model.
2. Totals may be slightly off due to rounding.

Refer to Appendix A for CalEEMod outputs and results.

As shown in Table 4.8-1, the amount of GHG emissions from Project construction would total 57.41 $MTCO_2e$ per year when amortized over 30 years (or 1,722.4 $MTCO_2e$ total).[5]

GHG Plan Consistency

As detailed above, the County has not adopted qualifying CAP or a numerical significance threshold for assessing impacts related to GHG emissions. Similarly, the South Coast Air Quality Management District (SCAQMD), CARB, or any other state or regional agency has not yet adopted a numerical significance threshold for assessing GHG emissions that applies to the Project. The methodology for evaluating the Project's impacts related to GHG emissions focuses on its consistency with statewide and regional plans adopted for the purpose of reducing and/or mitigating GHG emissions including CARB's Scoping Plan and SCAG's RTP/SCS. The evaluation of consistency with such plans would be the sole basis for determining the significance of the Project's GHG-related impacts on the environment.

Consistency with the 2020-2045 RTP/SCS

As mentioned above, the latest 2024-2050 RTP/SCS (Connect SoCal 2024) was adopted on April 4, 2024. However, CARB concluded that the technical methodology SCAG used to quantify the GHG emission reductions for the Connect SoCal 2024 does not operate accurately.[6] SCAG is currently working on updating the technical methodology and resubmitting for CARB's review. Until CARB approves the methodology, the Connect SoCal 2024 is not a fully adopted document,

[5] The project lifetime is based on the standard 30-year assumption of the South Coast Air Quality Management District (South Coast Air Quality Management District, *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*, October 2008).

[6] California Air Resources Board, RE: CARB Review of Southern California Association of Governments' 2024 SCS Senate Bill 375 Greenhouse Gas Emissions Draft Technical Methodology, March 29, 2024. https://ww2.arb.ca.gov/sites/default/files/2024-04/SCAG%20memo%20final.pdf, accessed, April 23, 2024.

especially from the GHG reduction perspective of the proposed strategies. As such, the consistency analysis relies upon the 2020-2045 RTP/SCS.

SCAG's 2020-2045 RTP/SCS is intended to help California reach its GHG reduction goals by reducing GHG emissions from passenger cars by 8 percent below 2005 levels by 2020 and 19 percent by 2035 in accordance with the most recent CARB targets adopted in March 2018. Five key SCS strategies are included in the 2020-2045 RTP/SCS to help the region meet its regional VMT and GHG reduction goals, as required by the State. Table 4.8-2 , *Consistency with the 2020-2045 RTP/SCS*, analyzes the Project's consistency with these five 2020-2045 RTP/SCS strategies. Given that the Project consists of roadway, drainage, and erosion control improvements, the 2020-2045 RTP/SCS strategies, which are mostly related to land use planning and new development, are not directly relevant to the Project. As detailed in Table 4.8-2, the Project would not conflict with these strategies.

Table 4.8-2: Consistency with the 2020-2045 RTP/SCS

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
1.0 Focus Growth Near Destinations and Mobility Options		
• Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations • Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets • Plan for growth near transit investments and support implementation of first/last mile strategies • Promote the redevelopment of underperforming retail developments and other outmoded nonresidential uses • Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods • Encourage design and transportation options that reduce the reliance on and number of solo car trips (this could include mixed uses or locating and orienting close to existing destinations) • Identify ways to "right size" parking requirements and promote alternative parking strategies (e.g., shared parking or smart parking)	Center Focused Placemaking, Priority Growth Areas (PGA), Job Centers, High Quality Transit Areas (HQTAs), Transit Priority Areas (TPA), Neighborhood Mobility Areas (NMAs), Livable Corridors, Spheres of Influence (SOIs), Green Region, Urban Greening.	**Not Applicable.** The proposed Project consists of roadway, drainage, and erosion control improvements. As such, no new development or land uses are proposed that would focus growth near destinations and mobility options. Therefore, this strategy is not applicable to the proposed Project.
2.0 Promote Diverse Housing Choices		
• Preserve and rehabilitate affordable housing and prevent displacement	PGA, Job Centers, HQTAs, NMA, TPAs,	**Not Applicable.** Refer to response above regarding Project

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
• Identify funding opportunities for new workforce and affordable housing development • Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply • Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions	Livable Corridors, Green Region, Urban Greening.	consistency with the "1.0 - Focus Growth Near Destinations and Mobility Options" strategy. The proposed Project does not include residential development and thus, this strategy is not applicable.
3.0 Leverage Technology Innovations		
• Promote low emission technologies such as neighborhood electric vehicles, shared rides hailing, car sharing, bike sharing and scooters by providing supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space • Improve access to services through technology—such as telework and telemedicine as well as other incentives such as a "mobility wallet," an app-based system for storing transit and other multi-modal payments • Identify ways to incorporate "micro-power grids" in communities, for example solar energy, hydrogen fuel cell power storage and power generation	HQTA, TPAs, NMA, Livable Corridors.	**Not Applicable.** Refer to response above regarding Project consistency with the "1.0 - Focus Growth Near Destinations and Mobility Options" strategy. This strategy requires leveraging technology innovations during operational phase of applicable projects, and therefore is not applicable to the proposed Project.
4.0 Support Implementation of Sustainability Policies		
• Pursue funding opportunities to support local sustainable development implementation projects that reduce greenhouse gas emissions • Support Statewide legislation that reduces barriers to new construction and that incentivizes development near transit corridors and stations • Support local jurisdictions in the establishment of Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), or other tax increment or value capture tools to finance sustainable infrastructure and development projects, including parks and open	Center Focused Placemaking, Priority Growth Areas (PGA), Job Centers, High Quality Transit Areas (HQTAs), Transit Priority Areas (TPA), Neighborhood Mobility Areas (NMAs), Livable Corridors, Spheres of Influence (SOIs), Green Region, Urban Greening.	**Not Applicable.** Refer to response above regarding Project consistency with the "1.0 - Focus Growth Near Destinations and Mobility Options" strategy. This strategy regarding sustainability policies is not applicable to the proposed Project.

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
space • Work with local jurisdictions/ communities to identify opportunities and assess barriers to implement sustainability strategies • Enhance partnerships with other planning organizations to promote resources and best practices in the SCAG region • Continue to support long range planning efforts by local jurisdictions • Provide educational opportunities to local decisions makers and staff on new tools, best practices and policies related to implementing the Sustainable Communities Strategy		
5.0 Promote a Green Region		
• Support development of local climate adaptation and hazard mitigation plans, as well as project implementation that improves community resiliency to climate change and natural hazards • Support local policies for renewable energy production, reduction of urban heat islands and carbon sequestration • Integrate local food production into the regional landscape • Promote more resource efficient development focused on conservation, recycling and reclamation • Preserve, enhance and restore regional wildlife connectivity • Reduce consumption of resource areas, including agricultural land • Identify ways to improve access to public park space	Green Region, Urban Greening, Greenbelts and Community Separators.	**Consistent.** As detailed in Section 2.3, *Project Background*, the Project site and surrounding properties have experienced stormwater drainage deficiencies and flooding due to the existing mountainous terrain, soil erosion, and slope instability on-site. During large storm events, debris is deposited on Modjeska Grade Road causing hazards to motorists, and inlets and ditches become clogged with sediment preventing proper drainage, as a result, runoff and debris enter private properties and driveways. Additionally, the existing side ditches and riser inlets are hazardous to motorists due to the road being narrow and steep. If an errant vehicle leaving the roadway crosses over side ditches or riser inlets, the motorist could lose control, and vehicles could overturn or stop abruptly causing hazards to motorists and adjacent uses. The proposed Project aims to improve the pavement, drainage, flooding, and erosion control deficiencies on-site. As such, the Project would improve community resiliency to natural hazards through the reduction of potential flood and drainage

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
		hazards on-site following a large storm event. The Project would be consistent with this Strategy.

Source: Southern California Association of Governments, *Connect SoCal: 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy,* September 3, 2020.

Consistency with the 2022 Scoping Plan

The CARB 2022 Scoping Plan identifies reduction measures necessary to achieve the goal of carbon neutrality by 2045 or earlier. Actions that reduce GHG emissions are identified for each AB 32 inventory sector. Provided in Table 4.8-3, *Consistency with the 2022 Scoping Plan: AB 32 GHG Inventory Sectors*, is an evaluation of applicable reduction actions/strategies by emissions source category to determine how the Project would be consistent with or exceed reduction actions/strategies outlined in the 2022 Scoping Plan.

Table 4.8-3: Consistency with the 2022 Scoping Plan: AB 32 Inventory Sectors

Actions and Strategies	Project Consistency Analysis
Smart Growth / Vehicles Miles Traveled (VMT)	
Reduce VMT per capita to 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045	**Consistent**. OC Public Works proposes to provide roadway, drainage, and erosion control improvements on-site. These improvements would result in reduced maintenance needs, and safety enhancements for residents and travelers along Modjeska Grade Road, in addition to the surrounding uses along the corridor. Modjeska Grade Road would maintain its current roadway configuration, with one lane in each direction. The Project would not increase the vehicular capacity of Modjeska Grade Road; therefore, the Project would not result in any change in the area's total VMT.. As such, the Project would be consistent with this action.
Construction Equipment	
Achieve 25% of energy demand electrified by 2030 and 75% electrified by 2045	**Consistent.** The County has not adopted an ordinance or program requiring electricity-powered construction equipment. Project construction is anticipated to be completed before such ordinance or program is adopted as construction of the Project would be completed before 2030. However, if such ordinance or program is adopted before Project construction is complete, the Project would comply with the applicable goals or policies requiring the use of electric construction equipment. As such, the Project would be consistent with this action.

Source: California Air Resources Board, *2022 Scoping Plan*, November 16, 2022.

In summary, the consistency analyses provided above demonstrates that the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHGs. Thus, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation measures are required.

4.9 Hazards and Hazardous Materials

Would the Project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☒	☐	☐

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

Less Than Significant Impact. Exposure of the public or the environment to hazardous materials could occur through improper handling or use of hazardous materials or hazardous wastes particularly by untrained personnel, a transportation accident, environmentally unsound disposal methods, or fire, explosion, or other emergencies. The severity of potential effects varies with the activity conducted, the concentration and type of hazardous material or wastes present, and the proximity of sensitive receptors.

Short-Term Construction Impacts

Short-term construction activities for the proposed Project would not involve the routine transport, use, or disposal of hazardous materials. With the exception of utilizing gasoline, diesel fuels, and solvents for construction equipment, no other hazardous materials would be transported to or from the Project site or be utilized in the construction process. Fuels and solvents for construction would be stored and utilized pursuant to existing regulatory requirements. Therefore, impacts concerning the routine transport, use, or disposal of hazardous materials during Project construction would be less than significant.

Long-Term Operational Impacts

As a roadway facility, long-term operation of the proposed roadway, drainage, and erosion control improvements would not itself require the transport, use, or disposal of hazardous materials.

However, it is reasonable to assume that vehicles transporting hazardous materials to other destinations could utilize the roadway, similar to existing conditions. Existing federal and State laws and regulations pertaining to the transport of hazardous materials would reduce potential impacts to less than significant levels. These include the Code of Federal Regulations (CFR) Title 49, Part 177, Carriage by Public Highway, which sets requirements for acceptable types of hazardous materials that can be transported by vehicle, inspections, driver training, recordkeeping, and loading and unloading procedures; and California Health and Safety Code Division 20, Chapter 6.5, which sets strict permitting requirements for hazardous waste haulers and establishes contingency measures in the event of upset. Further, it is acknowledged that operations of the proposed Project would not increase the routine transport of hazardous materials, compared to the existing condition. Thus, the impact in this regard would be less than significant.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant With Mitigation Incorporated.

Short-Term Construction Impacts

One of the means through which human exposure to hazardous substances could occur is through the accidental release of hazardous substances. Incidents that result in an accidental release of hazardous substances into the environment can cause contamination of soil, surface water, and groundwater, in addition to any toxic fumes that might be generated. Human exposure to contaminated soil, soil gas, or water can have potential health effects based on a variety of factors, such as the nature of the contaminant and the degree of exposure.

Construction Equipment

During Project construction, there is a possibility of accidental release of hazardous substances such as petroleum-based fuels or hydraulic fluid used for construction equipment. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials utilized during construction. The construction contractor would be required to use standard construction controls and safety procedures to avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, State, and federal law.

Site Disturbance Activities

Construction activities could also result in accidental conditions involving existing on-site contamination. The following analysis considers current and past uses of the Project site and its vicinity, which may have resulted in existing on-site hazardous conditions, which could cause accidental conditions during site disturbance activities.

Historical Uses

Herbicide/Pesticide

The Project site has operated as a local roadway since 1946.[1] Between 1946 and 1952, the adjacent property within the northwest quadrant of the Modjeska Canyon Road and Shadowland Circle intersection (APN: 105-221-18) appears to have been used for agricultural purposes.[2] As such, residual herbicide/pesticide contamination may be present on surface soils within this adjacent property; however, the adjacent property itself has been highly disturbed since 2002 and is currently used as a single-family residence. No known contamination has been reported in association with these past uses. Thus, no impacts associated with accidental release of hazardous materials in existing soils during grading activities are anticipated.

Current Uses

On-site, Modjeska Grade Road is a rural local highway located within the greater Modjeska Canyon, and is generally surrounded by residential, agricultural, and open space uses. No known contamination has been reported in association with these uses.

Lead-Based Paints

Lead-based paints (LBP) were commonly used in traffic striping materials before the discontinued use of lead chromate pigment in traffic striping/marking materials and hot-melt thermoplastic stripe materials (discontinued in 1997 and 2006, respectively). Traffic striping is present along Modjeska Grade Road. Construction activities related to the proposed roadway improvements (i.e., re-pavement and re-striping of the existing roadway alignment) would disturb the existing traffic striping/marking materials. While it is unknown as to when restriping or installation/replacement of marking materials has occurred, it is reasonable to infer that the removal of such material could subject construction workers to LBP exposure. MM HAZ-1 would ensure that potential LBP materials, if present, are properly identified and disposed of during site disturbance. Additionally, the Project would ensure that the identified hazardous waste and/or hazardous material is handled and disposed of in the manner specified by the State of California Hazardous Substances Control Law (Health and Safety Code, Division 20, Chapter 6.5, *Hazardous Waste Control*) and in accordance with the requirements of the California Administrative Code, Title 30, Chapter 22, *Enforcement, Inspections, and Informant Rewards*. Additionally, OC Public Works would report all findings of hazardous waste to the Orange County Health Care Agency. Thus, with implementation of MM HAZ-1 and conformance with existing State standards would reduce impacts to less than significant levels.

Potential Polychlorinated Biphenyls (PCB)-Containing Materials

Electrical poles are present on-site along Modjeska Grade Road. One pole-mounted transformer is present on-site and is located within the southwestern quadrant of the intersection between Shadowland Circle and Modjeska Grade Road. Transformers installed prior to 1980 have the potential to contain PCBs. PCBs are organic oils that were formerly used primarily as insulators in many types of electrical equipment, including transformers. After PCBs were determined to be a carcinogen in the mid to late 1970s, the U.S. Environmental Protection Agency (EPA) issued

[1] Netroline, *Historical Aerials*, https://www.historicaerials.com/viewer, accessed June 24, 2022.
[2] Ibid.

final regulations in 1979 banning the manufacture of PCBs and phasing out most PCB uses. As the installation date of this on-site pole-mounted transformer is unknown at the time of this analysis, PCBs may be present within this on-site transformer. However, the proposed Project would protect the electrical pole in place. As such, impacts would be less than significant in this regard.

Long-Term Operational Impacts

The proposed roadway, drainage, and erosion control improvements would not introduce new land uses on- or off-site that would require the use of hazardous materials. Operations of the proposed Project would not increase impacts regarding accidental conditions, compared to the existing condition. Thus, a less than significant impact would occur in this regard.

Mitigation Measures:

HAZ-1 During final design, Orange County Public Works shall ensure that a certified consultant shall conduct lead-based paint surveys of pavement materials that will be demolished as part of the proposed Project. If pavement materials are determined to contain lead, these materials shall be handled and disposed of in accordance with existing State regulations.

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

No Impact. There are no existing or proposed schools located within 0.25-mile of the Project site. The closest school to the Project site is the Portola Hills Elementary School, located approximately 1 mile south of the Project site at 19422 Saddleback Ranch Road, in the City of Lake Forest. As such, no impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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

No Impact. Government Code Section 65962.5 requires the Department of Toxic Substances Control (DTSC) and State Water Resources Control Board (SWRCB) to compile and update a regulatory site listing (per the criteria of the Section). The California Department of Health Services is also required to compile and update, as appropriate, a list of all public drinking water wells that contain detectable levels of organic contaminants and that are subject to water analysis pursuant to Section 116395 of the Health and Safety Code. Section 65962.5 requires the local enforcement agency, as designated pursuant to Section 18051 of Title 14 of the California Code of Regulations (CCR), to compile, as appropriate, a list of all solid waste disposal facilities from which there is a known migration of hazardous waste.

The Project site is not listed pursuant to Government Code Section 65962.5.[3] As such, no impacts would occur in this regard.

[3] California Environmental Protection Agency. *Cortese List Data Resources*, https://calepa.ca.gov/sitecleanup/corteselist/, accessed April 16, 2024.

Mitigation Measures: No mitigation measures are required.

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 closest public use airport to the Project site is John Wayne Airport, located approximately 12.6 miles west of the Project site at 18601 Airport Way in the City of Santa Ana. The Project site is located outside of the John Wayne Airport Influence Area and is not within the vicinity of a private airstrip or any airport land use plan, or within two miles of a public airport.[4] As such, no impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact With Mitigation Incorporated. According to the County of Orange, *Unified County of Orange and Orange County Operational Area Emergency Operations Plan*, Orange County is currently using the Standardized Emergency Management System (SEMS) for emergency response, where depending on the type of incident, responsible agencies and disciplines may be called upon to assist with emergency response.[5] Agencies and disciplines that can be expected to be part of an emergency response team include medical, health, fire and rescue, police, public works, and the coroner, among other responsible agencies and disciplines.

Similar to existing conditions, emergency access would continue to be provided along Modjeska Grade Road during project operations. Although, construction activities would require single lane temporary lane closures and extended full lane closures on-site along Modjeska Grade Road (refer to Section 2.6, *Project Construction and Phasing*), the implementation of a construction traffic management plan (TMP) would maintain emergency access during the construction phase of the Project (MM TRA-1). The TMP may include potential measures such as construction signage, noticing of closures along Modjeska Grade Road and alternative routes, limitations on timing for lane closures to avoid peak hours, temporary striping plans, and the need for a construction flag person to direct traffic during construction equipment use, among others. Implementation of the TMP would provide congestion relief for motorists and emergency vehicles during short-term construction activities and ensure safe travel on-site and along existing travel routes. Further, OC Public Works would continue to coordinate with and notify the Orange County Fire Authority (OCFA) and Orange County Sheriff's Department (OCSD) of temporary partial and full lane closures and detour routes prior to construction. Implementation of MM TRA-1 and coordination with and notification of OCFA and OCSD would ensure that the impacts to existing emergency and evacuation plans would be reduced to less than significant levels.

[4] County of Orange Airport Land Use Commission, Airport Environs Land Use Plan for John Wayne Airport, amended April 17, 2008, chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://files.ocair.com/media/2021-02/JWA_AELUP-April-17-2008.pdf?VersionId=cB0byJjdad9OuY5im7Oaj5aWaT1FS.vD , accessed April 19 2024.

[5] County of Orange, *Unified County of Orange and Orange County Operational Area Emergency Operations Plan*, February 2019.

Project operations would not impair local or regional access on-site or within the site vicinity. The proposed Project would improve the existing roadway conditions by widening travel lanes, constructing new and/or widened shoulders, re-paving, installing guardrail, and improving drainage and erosion on-site. These Project improvements would improve access and mobility along Modjeska Grade Road, resulting in beneficial enhancements.

Mitigation Measures: Refer to MM TRA-1 in Section 4.17(a).

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

Less Than Significant Impact With Mitigation Incorporated. According to the California Department of Forestry and Fire Protection, the Project site is located within a Very High Fire Hazard Severity Zone in a State Responsibility Area (SRA).[6] Additionally, the Modjeska Grade Road and East Santiago Canyon Road intersection is located within a Very High Fire Hazard Severity Zone in a Local Responsibility Area (LRA).[7]

Pursuant to the Disaster Mitigation Act of 2000 (DMA 2000), the County of Orange and OCFA developed the *Local Hazard Mitigation Plan* (LHMP) as a multi-jurisdiction plan to promote sound public policy designed to protect citizens, critical facilities, infrastructure, private property, and the environment from natural hazards.[8] The LHMP efforts include identifying and profiling hazards, analyzing the people and facilities at risk, and developing mitigation actions to reduce or eliminate hazard risk. The LHMP identifies typical wildfire characteristics, the County's susceptibility to wildfires, and mitigation action items. Implementation of the mitigation activities in the LHMP includes short- and long-term strategies that involve planning, policy changes, programs, projects, and other activities to minimize risk from natural hazards including wildfire.

Additionally, during construction, the Project would be required to comply with existing regulations outlined in Chapter 33 of the California Fire Code (CFC), *Fire Safety During Construction and Demolition*, which outlines safety provisions and precautions to minimize fire risks. The Project would also adhere to County Code of Ordinances Section 324, *Use of Equipment*, which prohibits the use of internal combustion engines that use hydrocarbon fuels upon or adjoining any hazardous fire area. Further, as required by MM WF-1, in the event of a red flag warning by the National Weather Service (NWS), all construction activities involving hot work, defined as work involving electric or gas welding, cutting, brazing, or similar flame or spark-producing operations, must cease until the NWS lifts the red flag warning, and the construction contractor indicates construction activities involving hot work can continue as normal. Prior to issuance of a grading permit, MM WF-2 would require the project contractor in coordination with OC Public Works to prepare an Emergency and Construction Fire Prevention Plan for approval by the OCFA Fire Chief, or their designee, and the Orange County Sheriff's Department. The Emergency and Construction Fire Prevention Plan must include, but not limited to, measures such as a detailed schedule of construction activities, after-work hours emergency contact

[6] California Department of Forestry and Fire Protection, *Very High Fire Hazard Severity Zones in SRA As Recommended by CAL FIRE*, November 7, 2007, https://osfm.fire.ca.gov/media/6737/fhszs_map30.pdf, accessed June 24, 2022.

[7] California Department of Forestry and Fire Protection, *Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE*, October 2011, https://osfm.fire.ca.gov/media/6739/fhszl_map30.pdf, accessed June 24, 2022.

[8] County of Orange and Orange County Fire Authority, *Local Hazard Mitigation Plan*, December 2021.

information, fire safety measures in compliance with the National Fire Protection Association Standard 51B and California Public Resources Code Section 4442, and emergency operational procedures in the event of a wildland fire, structural fire, red flag day, emergency involving emergency medical services (EMS), loss of power, and flood emergencies. Lastly, as required by MM WF-3, at least two weeks prior to the commencement of construction activities, OC Public Works would be required to post the following: 1) Information regarding OCFA's "Ready, Set, Go!" safety program; 2) An emergency evacuation route map for the immediate area/vicinity; and 3) The direct phone number of OCFA Fire Stations 16 and 42, on the community bulletin board located at 28890 Modjeska Canyon Road, Silverado, California 92676. This information must also be provided via mail to nearby residents of Modjeska Canyon affected by the proposed Project.

During long-term operations, the Project site would continue to operate as a roadway facility. The Project would not introduce new land uses that would expose people or structures to a significant risk of loss, injury, or death involving wildland fires. The Project would comply with County Code of Ordinances Section 322, *Clearance of Brush or Vegetation Growth from Roadways*, which would ensure that areas within 10 feet on each side of highways and private streets be cleared of flammable vegetation and other combustible growth as authorized by the fire code official. The proposed Project would also install hydroseed, open weave textile, and wire blankets within various areas of Modjeska Grade Canyon Road as form of erosion control measures. These measures would prevent exposure to future wildland fire damages including flooding and mudflows following a wildland fire event on-site and within the surrounding vicinity. Thus, with implementation of MMs WF-1 through WF-3, and existing local, State, and regional regulations, impacts would be reduced to less than significant levels.

Mitigation Measures: Refer to MMs WF-1 through WF-3 in Section 4.20(a).

4.10 Hydrology and Water Quality

Would the Project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede 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 offsite?	☐	☐	☒	☐
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 sources of polluted runoff?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

This section is primarily based upon the following technical studies included in Appendix E, *Hydrology and Hydraulic Study*:

- *Modjeska Grade Road, Road and Drainage Improvements Water Quality Management Plan* (WQMP), prepared by CWE, dated February 12, 2024; and
- *Proposed Condition Preliminary Hydrology and Hydraulic Report* (Hydrology Report), prepared by Avila and Associates Consulting Engineers, Inc., dated September 30, 2021.

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. As part of Section 402 of the Clean Water Act, the U.S. Environmental Protection Agency (EPA) established regulations under the National Pollutant Discharge Elimination System (NPDES) program to control direct stormwater discharge. In California, the State Water Resources Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCBs) to preserve, protect, enhance, and restore water quality. The County of Orange is within the jurisdiction of the Santa Ana RWQCB.[1]

Impacts related to water quality typically range over three different periods: 1) during the earthwork and construction phase, when the potential for erosion, siltation, and sedimentation would be the greatest; 2) following construction, prior to the establishment of ground cover, when the erosion potential may remain relatively high; and 3) following completion of the project, when

[1] California Water Boards, *State and Regional Water Boards*, https://www.waterboards.ca.gov/waterboards_map.html, accessed April 19, 2024.

impacts related to sedimentation would decrease markedly, but those associated with urban runoff would increase.

Under existing conditions, off-site drainage enters the Project site from uphill slopes and asphalt drainage ditches, inlets, cross culverts, and pipe slope drains, along with the roadway, capture and convey storm flows and surface runoff into natural drainages. The northern end of the Project site drains into Santiago Creek which ultimately drains into Irvine Lake. Irvine Lake discharges to Santiago Creek which flows to the Santa Ana River and ultimately the Pacific Ocean south of Huntington State Beach. The southern end of the Project site drains into the Aliso Creek which ultimately discharges to the Pacific Ocean north of Aliso Beach. The *Water Quality Control Plan for the Santa Ana River Basin* (Basin Plan) designates beneficial uses for water bodies in the Santa Ana Region and establishes water quality objectives and implementation plans to protect those beneficial uses, including municipal and domestic supply, groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, and rare, threatened or endangered species. In addition, the *Proposed Final Staff Report: 2024 California Integrated Report: Surface Water Quality Assessments to comply with Clean Water Act Sections 303(d) and 305(b)* has not designated Santiago Creek or Irvine Lake as impaired nor has a Total Maximum Daily Load been established for pollutants of concern.[2]

Short-Term Construction Impacts

Project construction could result in short-term impacts to water quality due to the handling, storage, and disposal of construction materials, maintenance and operation of construction equipment, and earthmoving activities. Potential pollutants associated with these activities could impact downstream waterbodies. Dischargers whose projects disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the SWRCB General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order 2022-0057-DWQ (Construction General Permit). Given that the Project site is greater than one acre in size, the Project would be required to obtain a Construction General Permit under the NPDES program.

To comply with the Construction General Permit, the Project must register with the Stormwater Multiple Application and Report Tracking System and prepare and implement a stormwater pollution prevention plan (SWPPP). The SWPPP would specify best management practices (BMPs) to be implemented during construction of the Project to minimize or avoid water pollution, thereby reducing potential short-term impacts to water quality. BMPs for construction activities may include measures to control pollutants at particular sources, such as fueling areas, trash storage areas, outdoor materials storage areas, and outdoor work areas. BMPs are also used during treatment of the pollutants at these particular source areas. The following BMPs could be implemented prior to construction to capture sediment, stabilize slopes, and prevent runoff and sediment from entering receiving waters:

[2] California State Water Resources Control Board, *Proposed Final Staff Report: 2024 California Integrated Report: Surface Water Quality Assessments to comply with Clean Water Act Sections 303(d) and 305(b)*, https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.waterboards.ca.gov%2Fwater_issues%2Fprograms%2Ftmdl%2F2023_2024state_ir_reports%2F2024-ir-proposed-final-staff-report.docx&wdOrigin=BROWSELINK, accessed April 19, 2024.

- Silt curtains,
- Erosion control fiber mats,
- Silt fences,
- Sandbag barriers, and
- Sediment traps.

In addition to the BMPs, the SWPPP must contain: a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. The SWPPP is required to outline the erosion, sediment, and non-stormwater BMPs, in order to minimize the discharge of pollutants at the construction site. These BMPs would include measures to contain runoff from vehicle washing at the construction site, prevent sediment from disturbed areas from entering the storm drain system using structural controls (i.e., sandbags at inlets), and cover and contain stockpiled materials to prevent sediment and pollutant transport. Implementation of the BMPs would ensure runoff and discharges during the Project's construction phase would not violate any water quality standards. Compliance with the Construction General Permit would reduce short-term construction-related impacts to water quality to a less than significant level.

Long-Term Operational Impacts

Long-term operations would similarly have the potential for impacting drainage systems due to pollutants in stormwater runoff (metals, nutrients, oil and grease, pathogens [bacteria and viruses], suspended solids/sediments, toxic organic compounds [pesticides, solvents, and hydrocarbons], trash and debris) that could have the potential to affect tributary drainage features. The proposed Project would include roadway (pavement rehabilitation and paving of roadway shoulders), drainage, and erosion control improvements along Modjeska Grade Road. Based on the WQMP prepared for the Project, the Project would be classified as a "Green Street Project – Retrofitting/Redevelopment of 5,000 Square Feet or More of Existing Paved Alleys, Streets, or Roads." Green Street Projects are required to delineate drainage management areas (DMA) and determine the design capture volume (DCV) for each DMA.

Based on the WQMP, the Municipal Separate Storm Sewer System (MS4) Permit requires that applicable Green Streets Projects select BMPs consistent with the EPA Green Streets guidance to the "Maximum Extent Practicable." Green Street Projects are required to follow a BMP prioritization and selection process for each DMA and must exhaust every physical possibility before declaring that capturing and treating the DCV is not possible. According to the WQMP, the Maximum Extent Practicable standard is achieved for the Project as no post-construction BMPs are feasible given the Project's many constraints (i.e., soil instability, erosion/sedimentation, insufficient right-of-way, and steep slopes).

The Project proposes to improve the existing storm drainage system along Modjeska Grade Road to reduce flooding and soil erosion on-site. To channelize storm flows and reduce the potential for erosion, the proposed Project would construct concrete-lined v-ditches and asphalt concrete dikes along the roadway edges. Additional improvements would include replacing or upsizing the existing storm drain pipes and installing new inlets and underground storm drain pipes within Project limits to adequately capture and convey on-site stormwater flows. Energy dissipation measures would be installed at the system outlets to minimize erosion, turbulence, and turbidity since the Project discharges indirectly to the Santiago Creek and Aliso Creek, which are not engineered or hardened and are susceptible to hydromodification. Channel protection such as rip

rap would be included where necessary to protect the ditch bottom and banks of an existing unlined manmade drainage ditch adjacent to Modjeska Canyon Road between Shadowland Circle and Santiago Creek, where two storm drain systems drain into the upstream end of the ditch. Further, the soil erosion of side slopes that drain on-site would be reduced by installing erosion control measures such as hydroseed containing only locally prevalent native plant species, open weave textile, and turf reinforcement mat. Erosion along the unpaved roadway edges, which lead to sediment collection, inlet clogging, and slope stability issues at the tops of slopes, would be reduced by paving roadway shoulders and constructing concrete-lined ditches and asphalt dikes that would convey channelized surface flows. Erosion would be minimized at the point of discharge through measures to dissipate velocities, including tee dissipators and rip rap pads. Given the nature of the proposed Project as a, roadway, drainage and erosion control improvement Project, Project operations would not substantially degrade surface water or groundwater quality. As such, long-term operational impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact. The Project proposes roadway, drainage, and erosion control improvements along Modjeska Grade Road within the Project limits. As such, the Project would not introduce any new uses that would substantially decrease groundwater supplies or interfere substantially with groundwater recharge. Although a nominal amount of water may be used during construction, these activities would be minimal and temporary in nature and would not substantially impact groundwater supplies. Additionally, the site is not currently utilized as a groundwater recharge area. The Project would not result in any water demand at Project completion and thus, would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. Less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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 surface, in a manner, which would:

i) Result in substantial erosion or siltation on- or offsite?

Less Than Significant Impact. As discussed in Response 4.10(a), the proposed Project would not result in water quality pollutants (including erosion/siltation) during short-term construction or long-term operations. The Project would include preparation of a SWPPP and implementation of construction BMPs (refer to the list of construction BMPs noted above) pursuant to the provisions of the NPDES Construction General Permit.

At Project completion, the Project site would not include large areas of exposed soil that would be subject to runoff. Rather, the Project would provide roadway improvements including pavement rehabilitation and paved roadway shoulders. Drainage improvements would include concrete-lined, v-ditches, and curb and gutter along the roadway edges to channelize storm flows and reduce the potential for erosion on-site. Additional improvements would include replacing or

upsizing the existing storm drain pipes and installing new inlets and underground storm drain pipes within Project limits to adequately capture and convey on-site stormwater flows. Energy dissipation measures would be installed at the system outlets to minimize erosion, turbulence, and turbidity since the Project discharges indirectly to the Santiago Creek and Aliso Creek, which are not engineered or hardened and are susceptible to hydromodification. Channel protection such as rip rap would be included where necessary to protect the ditch bottom and banks of an existing unlined manmade drainage structure adjacent to Modjeska Canyon Road between Shadowland Circle and Santiago Creek, where two storm drain systems drain into the upstream end of the ditch. As such, Project implementation would not substantially alter the existing drainage pattern on-site in a manner that would result in substantial erosion or siltation on- or off-site. The Project would serve as a beneficial enhancement to hydrology and water quality on-site. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

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. Refer to Responses 4.10(a) and 4.10(c)(i). Implementation of the proposed Project would nominally increase impervious surfaces on-site mainly due to the paving of roadway shoulders; however, the Project would result in a beneficial enhancement by improving on-site drainage (i.e., channelizing storm flows, improving drainpipes, installing catch basins, and implementing energy dissipation measures) and reducing the risk of flooding within the Project area. Thus, less than significant impacts would occur is this regard.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact. Refer to Responses 4.10(a) and 4.10(c)(i). As a roadway, drainage, and erosion control improvement Project, the Project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial sources of polluted runoff. The Project does not propose any new uses that could create or contribute runoff water into existing stormwater drainage systems in the Project area. Additionally, in compliance with the Construction General Permit, a SWPPP would be prepared for the Project. The SWPPP would specify BMPs to be implemented during construction of the Project to minimize or avoid water pollution, thereby reducing potential short-term impacts to water quality. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact.

Flood Hazard

A Special Flood Hazard Area (SFHA) is an area within a floodplain having a one percent or greater chance of flood occurrence within any given year (commonly referred to as the 100-year flood zone). SFHAs are delineated on flood hazard boundary maps issued by the Federal Emergency Management Agency (FEMA). The Flood Disaster Protection Act of 1973 and the National Flood Insurance Reform Act of 1994 make flood insurance mandatory for most properties in SFHAs.

According to FEMA Flood Insurance Rate Map (FIRM) Nos. 06059C0309J and 060212, a portion of the Project site is located within a FEMA-mapped special flood hazard area.[3] Specifically, the site is classified as Zone AE, which is a special flood hazard area with base flood elevation or depth and Zone X, which is an area with a one percent annual chance of flood with an average depth of less than one foot or with drainage areas of less than one square mile. Per the National Flood Improvement Program Floodplain Management Requirements Guide, all new construction in AE zones must have the structure lowest floor elevated above the highest adjacent grade.[4] No habitable structures are proposed as part of the Project; the Project proposes to provide roadway, drainage, and erosion control improvements on-site. These improvements would also result in safety enhancements for residents and travelers along Modjeska Grade Road, in addition to surrounding uses along the corridor. Further, the proposed Project would improve long-term operational maintenance activities and reduce temporary and emergency maintenance needs within the Project area. As such, less than significant impacts would occur in this regard.

Tsunami

A tsunami is a great sea wave, commonly referred to as tidal wave produced by a significant undersea disturbance such as tectonic displacement of a sea floor associated with large, shallow earthquakes. The Project site is located at an elevation of approximately between 1,277 and 1,651 feet above mean sea level and over 13.8 miles inland from the Pacific Ocean and thus, is located at a sufficient elevation and distance to avoid tsunami-related hazards. No impacts would occur in this regard.

Seiche

A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank. The Project site is not located within the vicinity of a reservoir, harbor, or lakes capable of creating a seiche. No impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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[3] Federal Emergency Management Agency, *FEMA Flood Map Service Center; Search By Address*, https://msc.fema.gov/portal/search?#searchresultsanchor, accessed January 30, 2024.

[4] California Department of Water Resources, *The National Flood Insurance Program in California Quick Guide 2020*, chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Flood-Management/Community-Resources/National-Flood-Insurance-Program/Files/CA-NFIP-Quick-Guide-ay11.pdf, accessed January 30, 2024.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The Basin Plan designates beneficial uses for water bodies in the Santa Ana Region and establishes water quality objectives and implementation plans to protect those beneficial uses. As noted above, the Project would not result in substantial construction-related impacts to water quality following compliance with the Construction General Permit. The Project proposes drainage and erosion control improvements and therefore would result in beneficial water quality enhancements.

The Sustainable Groundwater Management Act (SGMA) requires local public agencies and groundwater sustainability agencies in high- and medium-priority basins to develop and implement groundwater sustainability plans or prepare an alternative to a groundwater sustainability plan. According to the California Department of Water Resources SGMA Basin Prioritization Dashboard, the Project is not underlain by a groundwater basin.[5] Thus, the proposed Project is not anticipated to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan and no impact would occur.

Mitigation Measures: No mitigation measures are required.

[5] California Department of Water Resources, *SGMA Basin Prioritization Dashboard*, https://gis.water.ca.gov/app/bp-dashboard/final/, accessed October 19, 2022.

4.11 Land Use and Planning

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

a) Physically divide an established community?

No Impact. The proposed Project involves roadway, drainage, and erosion control improvements along Modjeska Grade Road. The Project does not propose to construct a new roadway that would physically divide an established community. Additionally, Project implementation would not introduce new land uses that would have the potential to physically divide an established community. Rather, neighboring residential communities would experience beneficial impacts regarding roadway safety, stormwater runoff, and erosion control. As such, implementation of the proposed Project would not physically divide an established community, and no impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact. The Project site and adjacent land to the north, west, and east are located within unincorporated Orange County. Surrounding uses to the south are situated in the City of Lake Forest; refer to Exhibit 3-2. As an existing roadway facility, the Project site does not have a land use or zoning designation. However, the Project site is generally surrounded by residential, agricultural, and open space uses; refer to Table 1.

The Orange County General Plan Land Use Element identifies policies and programs as well as other Orange County General Plan elements that affect land use and provide guidance for future land use planning throughout unincorporated Orange County. Additionally, the Silverado-Modjeska Specific Plan, and Foothill/Trabuco Specific Plan provide design guidelines within the specific plan areas. The Project proposes roadway, drainage, erosion control improvements along an existing roadway and would not involve or require a change in land use or zoning designation or introduce new land uses on-site. Modjeska Grade Road would continue to operate as a roadway

upon completion of construction. As demonstrated throughout this Initial Study/Mitigated Negative Declaration, the Project would not conflict with any goals and policies of the Orange County General Plan adopted for the purpose of avoiding or mitigating an environmental effect. Additionally, the Project would not conflict with the Silverado-Modjeska Specific Plan and Foothill/Trabuco Specific Plan design guidelines. Rather, OC Public Works has identified pavement, drainage, flooding, and erosion control deficiencies on and along Modjeska Grade Road which the Project aims to improve and enhance for residents and travelers along Modjeska Grade Road, in addition to surrounding uses along the corridor. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation measures are required.

4.12 Mineral Resources

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

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?

Less Than Significant Impact. The California Department of Conservation's Surface Mining and Reclamation Act of 1975 (SMARA) identifies a range of Mineral Resource Zones (MRZ) within the State of California based on geologic and economic factors that identify the potential importance of mineral deposits in a particular area. According to California Division of Mines and Geology, the site is identified as MRZ-3.[1] MRZ-3 identifies areas containing mineral deposits, the significance of which cannot be evaluated from available data. As described in Section 2.0, *Project Description*, the proposed Project would include roadway, drainage, and erosion control improvements along Modjeska Grade Road. Although the Project site is classified as MRZ-3, no mineral recovery activities have been known to occur or are planned in the Project area. Furthermore, the site is not designated for mineral resource recovery in the Orange County General Plan. Impacts of the Project would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact. Refer to Response 4.12(a).

Mitigation Measures: No mitigation measures are required.

[1] California Division of Mines and Geology, *Open File Report 94-15, Orange, Plate 1: Update of Mineral Land Classification of Portland Cement Concrete Aggregate in Ventura, Los Angeles, and Orange Counties, California, Part III – Orange County*, published 1995.

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4.13 Noise

Would the Project result in:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or 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?	☐	☐	☐	☒

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air and is characterized by both its amplitude and frequency (or pitch). The human ear does not hear all frequencies equally. In particular, the ear de-emphasizes low and very high frequencies. To better approximate the sensitivity of human hearing, the A-weighted decibel scale (dBA) has been developed. On this scale, the human range of hearing extends from approximately three dBA to around 140 dBA.

Noise is generally defined as unwanted or excessive sound, which can vary in intensity by over one million times within the range of human hearing; therefore, a logarithmic scale, known as the decibel scale (dB), is used to quantify sound intensity. Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Noise generated by mobile sources typically attenuates (is reduced) at a rate between three dBA and 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects

between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of three dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate between 6 dBA and about 7.5 dBA per doubling of distance.

There are several metrics used to characterize community noise exposure, which fluctuate constantly over time. One such metric, the equivalent sound level (L_{eq}), represents a constant sound that, over the specified period, has the same sound energy as the time-varying sound. Noise exposure over a longer period is often evaluated based on the Day-Night Sound Level (L_{dn}). This is a measure of 24-hour noise levels that incorporates a 10-dBA penalty for sounds occurring between 10:00 p.m. and 7:00 a.m. The penalty is intended to reflect the increased human sensitivity to noises occurring during nighttime hours, particularly at times when people are sleeping and there are lower ambient noise conditions. Typical L_{dn} noise levels for light and medium density residential areas range from 55 dBA to 65 dBA.

Sources of earth-borne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or man-made causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions). Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

Regulatory Framework

State of California

Office of Planning and Research

The State Office of Planning and Research (OPR) Noise Element Guidelines include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The OPR Noise Element Guidelines contain a land use compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the CNEL. Table 4.13-1, *Land Use Compatibility for Community Noise Environments*, presents guidelines for determining acceptable and unacceptable community noise exposure limits for various land use categories. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

California Department of Transportation

To assess the damage potential from ground vibration induced by construction equipment, the California Department of Transportation (Caltrans) developed a synthesis of various vibration criteria; refer to Table 4.13-2, *Guideline Vibration Damage and Annoyance Potential Criteria*.

This synthesis of criteria essentially assumes that the threshold for continuous sources is about half of the threshold for transient sources.

Table 4.13-1: Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density, Single-Family, Duplex, Mobile Homes	50 – 60	55 – 70	70 – 75	75 – 85
Residential – Multiple Family	50 – 65	60 – 70	70 – 75	70 – 85
Transient Lodging – Motel, Hotels	50 – 65	60 – 70	70 – 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 70	60 – 70	70 – 80	80 – 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 – 70	NA	65 – 85
Sports Arenas, Outdoor Spectator Sports	NA	50 – 75	NA	70 – 85
Playgrounds, Neighborhood Parks	50 – 70	NA	67.5 – 75	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 70	NA	70 – 80	80 – 85
Office Buildings, Business Commercial, Professional	50 – 70	67.5 – 77.5	75 – 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 – 80	75 – 85	NA

Notes: NA = Not Applicable; L_{dn} = Day/Night Average; CNEL = community noise equivalent level; dBA = A-weighted decibels
Normally Acceptable - Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable - New Construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable – New construction or development should generally not be undertaken.

Source: State of California Governor's Office of Planning and Research, *General Plan Guidelines*, July 2017.

Table 4.13-2: Guideline Vibration Damage and Annoyance Potential Criteria

VIBRATION IMPACT TYPE	Maximum PPV (inches/second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
DAMAGE **Structure and Condition**		
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5
ANNOYANCE **Human Response**		
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Notes:
Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: California Department of Transportation, *Transportation and Construction Vibration Guidance Manual, Table 19, Guideline Vibration Damage Potential Threshold Criteria, and Table 20, Guideline Vibration Annoyance Potential Criteria*, April 2020.

The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. Common sources for groundborne vibration are planes, trains, and construction activities such as pile driving and vibratory compacting activities which require the use of heavy-duty earth moving equipment.

County of Orange

County of Orange General Plan

The Noise Element of the Orange County's General Plan contains noise and land use compatibility standards for various land uses throughout the County, as identified in Table 4.13-3, *Compatibility Matrix For Land Use and Community Noise Equivalent Levels (CNEL)*.

Table 4.13-3: Compatibility Matrix For Land Use and Community Noise Equivalent Levels (CNEL)

Type of Use	65+ decibels CNEL	60 to 65 decibels CNEL
Residential	3a, b, e	2a, e
Commercial	2c	2c
Employment	2c	2c
Open Space		
Local	2c	2c
Community	2c	2c
Regional	2c	2c
Educational Facilities		
Schools (K through 12)	2c, d, e	2c, d, e
Preschool, college, other	2c, d, e	2c, d, e
Places of Worship	2c, d, e	2c, d, e
Hospitals		
General	2a, c, d, e	2a, c, d, e
Convalescent	2a, c, d, e	2a, c, d, e
Group Quarters	1a, b, c, e	2a, c, e
Hotel / Motels	2a, c	2a, c
Accessory Uses		
Executive Apartments	1a, b, e	2a, e
Caretakers	1a, b, c, e	2a, c, e

Notes:
Action Required to Ensure Compatibility Between Land Use and Noise From External Source
1 = Allowed if interior and exterior community noise levels can be mitigated.
2 = Allowed if interior levels can be mitigated.
3 = New residential uses are prohibited in areas within the 65-decibel CNEL contour from any airport of air station; allowed in other areas if interior and exterior community noise levels can be mitigated. The prohibition against new residential development excludes limited "infill" development within an established neighborhood.
Standards Required for Compatibility of Land Use And Noise
a = Interior Standard: CNEL of less than 45 decibels (habitable rooms only).
b = Exterior Standard: CNEL of less than 65 decibels in outdoor living areas.
c = Interior Standard: L_{eq} (h)=45 to 65 decibels interior noise level, depending on interior use.
d = Exterior Standard: L_{eq} (h) of less than 65 decibels in outdoor living areas.
e = Interior Standard: As approved by the Board of Supervisors for sound events of short duration such as aircraft flyovers or individual passing railroad trains.

Source: County of Orange, *County of Orange General Plan, Noise Element*, 2002.

Codified Ordinances of the County of Orange

Noise standards for the unincorporated areas of the County are provided under the County Code of Ordinances, Title 4, Division 6, *Noise Control*. Specifically, County Code of Ordinances Section 4-6-5, *Exterior Noise Standards*, identifies maximum exterior noise levels for that all residential property within a designated noise zone[1]; refer to Table 4.13-4, *Exterior Noise Standards for Residential Properties*. It is noted that in the event the alleged offensive noise consists entirely of

[1] In accordance with County Code of Ordinances Section 4-6-4, Designated noise zone, the entire territory of Orange County, including incorporated and unincorporated territory, is designated as "Noise Zone 1."

impact noise, simple tone noise, speech, music, or any combination thereof, the noise levels identified in the table are to be reduced by five dBA.

Table 4.13-4: Exterior Noise Standards for Residential Properties

Noise Zone	Noise Level	Time Period
1[1]	55 dBA	7:00 a.m.—10:00 p.m.
	50 dBA	10:00 p.m.— 7:00 a.m.

Notes: dBA= A-weighted decibel's

1. In accordance with County Code of Ordinances Section 4-6-4, Designated noise zone, the entire territory of Orange County, including incorporated and unincorporated territory, is designated as "Noise Zone 1."

Source: County of Orange, *Codified Ordinances of the County of Orange (codified through Ordinance No. 21-013), Title 4, Division 6, Noise Control.*

Further, as outlined in County Code of Ordinances Section 4-6-5(b), it is prohibited for any person at any location within the unincorporated area of the County to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured on any other residential property, either incorporated or unincorporated, to exceed:

(1) The noise standard for a cumulative period of more than 30 minutes in any hour; or
(2) The noise standard plus five dBA for a cumulative period of more than fifteen (15) minutes in any hour; or
(3) The noise standard plus ten dBA for a cumulative period of more than five (5) minutes in any hour; or
(4) The noise standard plus 15 dBA for a cumulative period of more than one (1) minute in any hour; or
(5) The noise standard plus 20 dBA for any period of time.

It is noted that in the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

Additionally, County Code of Ordinances Section 4-6-7, *Special provisions*, lists out activities that shall be exempted from the provisions of the noise standards within the County Code of Ordinances. Exemptions relevant to the proposed Project include:

(1) Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle or work;
(2) Noise sources associated with construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday;
(3) Mobile noise sources associated with agricultural operations, provided such operations do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or any time on Sunday or a federal holiday;

(4) Mobile noise sources associated with agricultural pest control through pesticide application, provided that the application is made in accordance with restricted material permits issued by or regulations enforced by the Agricultural commissioner;
(5) Noise sources associated with the maintenance of real property, provided said activities take place between 7:00 a.m. and 8:00 p.m. on any day except Sunday or a Federal holiday, or between the hours of 9:00 a.m. and 8:00 p.m. on Sunday or a Federal holiday; and/or
(6) Any activity to the extent regulation thereof has been preempted by State or Federal law.

Existing Conditions

Sensitive Receptors

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The Project would primarily occur within roadway right-of-way (Modjeska Grade Road), near various rural residential uses, which are considered noise sensitive receptors. The nearest sensitive receptors to the Project site are single-family residences located immediately adjacent to the north and south of the proposed construction boundary. These adjacent single-family residences are located within unincorporated Orange County. Additionally, it should be noted that although land use to the south (i.e., open space) are situated in the City of Lake Forest, such open space land use is further away from the Project site and separated by East Santiago Canyon Road; refer to Exhibit 2-2, *Site Vicinity*. As such, this analysis focuses on the single-family residences along the Project corridor within unincorporated Orange County.

Noise Measurements

To quantify existing ambient noise levels in the Project area (within the vicinity of the Project site), three noise measurements were taken on August 10, 2022; refer to Table 4.13-5, *Noise Measurements*. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the Project site. Three ten-minute measurements were taken between 2:00 p.m. and 3:30 p.m. Short-term (L_{eq}) measurements are considered representative of the noise levels throughout the day. Meteorological conditions were clear skies, warm temperatures, with gentle breeze (10 miles per hour in average wind speed), and low humidity. Ambient noise consists of traffic along Modjeska Grade Road. Noise monitoring equipment used for the ambient noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a Type 4189 pre-polarized microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute (ANSI) for sound level meters. The results of the field measurements are included in Appendix F, *Noise Data*. Refer to Exhibit 4.13-1, *Noise Measurement Locations*, for a layout of each measurement location in relation to the Project site.

Mobile Sources

Most of the existing noise in the Project area is generated from traffic along Modjeska Grade Road.

Table 4.13-5: Noise Measurements

Site No.	Location	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	Time
1	Northwest corner of the Modjeska Canyon Road, Shadowland Circle, and Modjeska Grade Road roundabout.	48.5	34.3	65.4	2:24 PM
2	Across Modjeska Grade Road from 28142 Modjeska Grade Road, along the northbound shoulder.	55.3	34.5	78.1	2:42 PM
3	At the Santiago Truck Trail entrance, right across the intersection of Oriole Street and Modjeska Grade Road.	52.4	27.6	71.6	3:07 PM

Notes: dBA = A-weighted decibels, L_{eq} = equivalent continuous sound levels. L_{min}= minimum sound levels, L_{max}= maximum sound levels

Source: Michael Baker International, August 10, 2022. Refer to Appendix F, *Noise Data*.

Stationary Sources

The primary sources of stationary noise in the Project area include typical urban-related equipment and activities associated with rural residential uses (i.e., mechanical equipment and parking). The noise associated with these sources may represent a single-event noise occurrence, short-term, or long-term/continuous noise.

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?

Less Than Significant Impact With Mitigation Incorporated.

It is difficult to specify noise levels that are generally acceptable to everyone; noise that is considered a nuisance to one person may be unnoticed by another. Standards may be based on documented complaints in response to documented noise levels or based on studies of the ability of people to sleep, talk, or work under various noise conditions.

Short-Term Construction Impacts

Construction activities generally are temporary and have a short, intermittent duration, resulting in periodic increases in the ambient noise environment. Ground-borne noise and other types of construction-related noise impacts typically occur during the initial phases (clearing, grubbing and balancing), which has the potential to create the highest levels of noise. The proposed Project would be constructed over a duration of approximately 12 months and would include grubbing and land clearing, grading and excavation, installing sub-grade drainage and utilities, and paving, with all these construction activities occurring simultaneously.

Construction equipment produce maximum noise levels when equipment is operating under full power conditions (i.e., the equipment engine at maximum speed). However, equipment used on construction sites typically operates under less than full power conditions, or partial power. To characterize construction-period noise levels more accurately, the average (L_{eq}) noise level associated with each construction stage is calculated based on the quantity, type, and usage factors for each type of equipment that would be used during each construction stage. These noise levels are typically associated with multiple pieces of equipment simultaneously operating on partial power.

The County has not established a quantitative threshold that applies to noise levels at active construction sites. To evaluate whether the Project would generate potentially significant temporary construction noise levels at off-site sensitive receiver locations, a construction-related noise level threshold was utilized from the Occupational Noise Exposure prepared by the National Institute for Occupational Safety and Health (NIOSH). As a division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The construction related noise level threshold starts at 85 dBA for more than eight hours per day, and for every 3-dBA increase, the exposure time is cut in half. For the purposes of this analysis, the lowest, most conservative construction noise level threshold of 85 dBA L_{eq} was used as an acceptable threshold for construction noise at the nearby sensitive receiver locations. Since this construction-related noise level threshold represents the energy average of the noise source over a given time, they are expressed as L_{eq} noise levels. Therefore, the noise level threshold of 85 dBA L_{eq} over a period of eight hours or more is used to evaluate the potential Project-related construction noise level impacts at the nearby sensitive receiver locations. It should be noted that the NIOSH 85 dBA L_{eq} threshold is averaged over a period of eight hours or more. None of the construction equipment would operate continuously for eight hours or more near a sensitive receptor; therefore, noise levels would be much lower than those presented in Table 4.13-6, *Maximum Noise Levels Generated by Typical Construction Equipment*, below.

Table 4.13-6: Noise Levels Generated by Typical Construction Equipment

Type of Equipment	Acoustical Use Factor[1]	Reference L_{max} at 50 Feet (dBA)[2]	L_{eq} at 5 Feet (dBA)
Backhoe	40	77.6	93.6
Compactor	20	83.2	96.2
Compressor	40	77.7	93.7
Dozer	40	81.7	97.7
Dump Truck	40	76.5	92.5
Excavator	40	80.7	96.7
Generator	50	80.6	97.6
Grader	40	85.0	101.0
Paver	50	77.2	94.2
Pumps	50	80.9	97.9
Roller	20	80.0	93.0
Tractor	40	84.0	100.0

Notes: L_{max} = maximum sound levels, L_{eq} = equivalent continuous sound levels, dBA= A-weighted decibel's

1. Acoustical use factor (percent): Estimates the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.
2. Source: Federal Highway Administration, *Roadway Construction Noise Model (FHWA-HEP-05-054),* January 2006.

To present a conservative impact analysis, the estimated noise levels were calculated assuming a clear line-of-sight and no other machinery or equipment noise that would mask Project construction noise. The shielding of buildings and other barriers that interrupt line-of-sight conditions would help further reduce noise levels than what is shown in Table 4.13-6 as the mountainous terrain of the Project site is anticipated to provide some shielding effects that would naturally reduce noise levels associated with the Project.

Although the Project construction activities would occur simultaneously, it should be noted that the Project proposes roadway, drainage, and erosion control improvements along an approximately 2.2-mile roadway segment along Modjeska Grade Road and construction equipment would be focused on one sub-area until specifications are met and then move on to the next sub-area of the Project site; refer to Section 2.6, Project Construction and Phasing, for a description of the proposed construction phasing. As such, due to the site constraints (narrow construction area) and project phasing, construction activities would not occur simultaneously at one location, and therefore the noise level of each construction equipment is quantified individually. Construction activities would occur throughout the Project site, and it should also be noted that construction noise levels would intermittently occur for a few days when construction equipment is operating closest to the nearest sensitive uses. The remainder of the time, the construction noise levels would be much lower because the equipment would be working in an area farther away from the existing sensitive uses.

As shown in Table 4.13-6, the nearest receptor to the Project site could be exposed to temporary and intermittent construction noise level of up to approximately 101.0 dBA L_{eq}. Although the noise level exceeds the NIOSH 85 dBA L_{eq} construction noise threshold at the nearest sensitive receptor (single-family residences) located approximately 5 feet from the property line along Modjeska Grade Road, it should be noted that the NIOSH 85 dBA L_{eq} threshold is averaged over a period of eight hours or more. None of the construction equipment would operate continuously for eight hours or more near a sensitive receptor; therefore, noise levels would be much lower than those presented in Table 4.13-6. Nevertheless, to reduce construction-related noise levels at the sensitive receptors, MM NOI-1 would be implemented to incorporate best management practices during construction, such as, the use of construction equipment with properly operating and maintained mufflers, locate stationary construction equipment so that emitted noise is directed away from the nearest noise sensitive receptors, and limit construction hours to be consistent with the County Code of Ordinance (construction activities are anticipated to occur between 7:00 a.m. and 5:00 p.m. on weekdays). The noise mufflers could provide noise reduction of approximately 5 dBA and natural noise reduction would also occur. Given that the noise exceedance will be within prescribed hours and intermittent, with the implementation of mitigation measure MM NOI-1, construction noise levels would be reduced to less than significant levels.

Further, pursuant to County Code of Ordinances Section 4-6-7, *Special provisions*, noise sources associated with construction would be exempted from noise standards on the County Code of Ordinances provided that construction activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday. Therefore, the Project's mandatory compliance with the County Code of Ordinances Section 4-6-7 would exempt the associated Project construction noise from other noise standards.

As such, given the sporadic, intermittent, and variable nature of proposed Project construction and implementation of MM NOI-1, noise impacts during short-term construction would be reduced to less than significant levels.

Operational Impacts

Mobile Noise

The proposed Project, which includes roadway, drainage, and erosion control improvements, would not increase the roadway capacity of the Modjeska Grade Road or represent a trip generating land use that would result in increased mobile sources noise during Project operations. No impacts would occur in this regard.

Stationary Noise

As a roadway, drainage, and erosion control improvements Project, the Project would not introduce new land uses, and operation of the proposed Project would not introduce any new stationary noise-generating sources. No impacts would occur in this regard.

Mitigation Measures:

NOI-1 Prior to the issuance of a grading permit, the construction contractor shall demonstrate to Orange County Public Works (OC Public Works), or its designee, that the Project complies with the following:

- Final design specifications shall specify that all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other State-required noise attenuation devices;
- During construction, a sign, legible at a distance of 50 feet, shall be posted at the Project construction site providing a contact name and a telephone number where residents can inquire about the construction process and register complaints. This sign shall indicate the dates and duration of construction activities. In conjunction with this required posting, a noise disturbance coordinator shall be identified to address construction noise concerns received. The coordinator shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the disturbance coordinator shall notify the County within 24 hours of the complaint and determine the cause of the noise complaint (such as, construction activities occurring between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday in violation of the County Code of Ordinances Section 4-6-7, *Special provisions*, or a malfunctioning muffler) and shall implement reasonable measures to resolve the complaint, as deemed acceptable by the County;
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers;
- Construction haul routes shall be designed to avoid noise sensitive uses (e.g., residences), to the extent feasible; and
- Construction activities shall not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday pursuant to the Codified Ordinances of the County of Orange Section 4-6-7.

During Project construction, OC Public Works shall be the responsible party to ensure that the construction contractor complies with the aforementioned measures.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Project construction can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect of construction-related vibration on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

The types of construction vibration impacts includes human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. As detailed in Table 4.13-2, Caltrans' *Transportation and Construction Vibration Guidance Manual* identifies various vibration damage criteria for different building classes. This evaluation uses the Caltrans architectural damage threshold for continuous vibrations at older residential buildings of 0.3 inches per second (in/sec) PPV. As the nearest structures to Project construction areas are residential structures, this threshold is considered appropriate. Typical vibration produced by construction equipment based on these standard vibration velocities is included in Table 4.13-7, *Typical Vibration Levels for Construction Equipment*.

Table 4.13-7: Typical Vibration Levels for Construction Equipment

Equipment	Approximate peak particle velocity at 25 feet (inches/second)[1,2]
Vibratory Roller	0.210
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003

Notes:
1. Calculated using the following formula:
   $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$
   where: PPV (equip) = the peak particle velocity in inches per second of the equipment adjusted for the distance
   PPV (ref) = the reference vibration level at 25 feet in inches per second from Table 12-2 of the FTA *Transit Noise and Vibration Impact Assessment Guidelines*
   D = the distance from the equipment to the receiver
2. Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, September 2018.

Project construction would not utilize large equipment (e.g., large bulldozers) due to the narrow and mountainous nature of the site. As indicated in Table 4.13-7, vibration velocities from typical heavy construction equipment operation that would be used during Project construction range from 0.030 to 0.210 in/sec peak particle velocity (PPV) at 25 feet (the nearest structure) from the source of activity (Modjeska Grade Road, where construction paving would occur). Therefore,

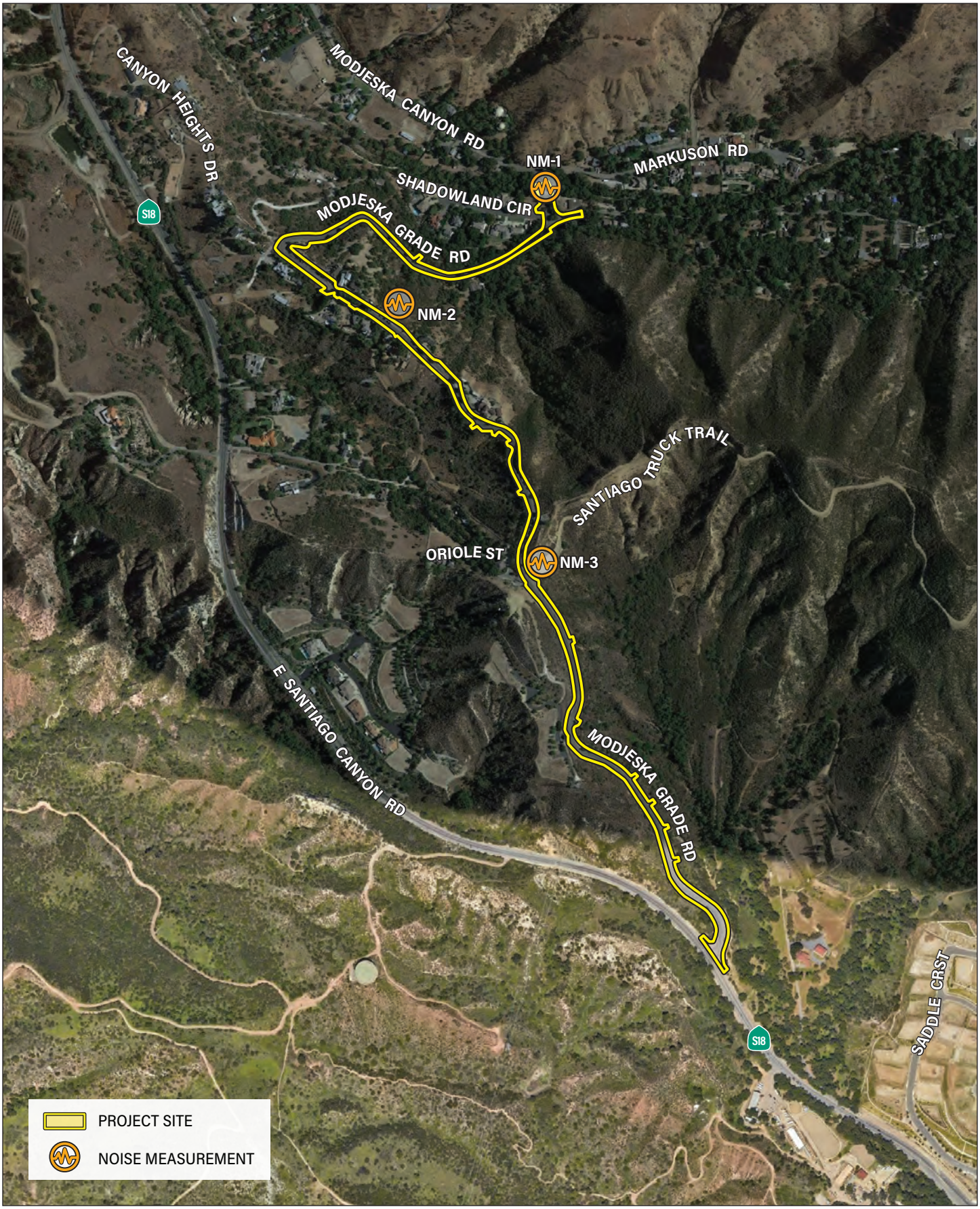
vibration from construction activities experienced at the closest structure would be below the 0.3 in/sec PPV significance threshold. As such, construction vibration impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

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 proposed Project is not located within an airport land use plan and there are no public or private airports or airstrips within two miles of the Project site. The nearest airport to the Project site is the John Wayne Airport, located approximately 12.6 miles west of the Project site at 18601 Airport Way in the City of Santa Ana. Therefore, Project implementation would not expose people residing or working in the Project area to excessive noise levels associated with aircraft. No impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.



Michael Baker INTERNATIONAL

NOT TO SCALE

12/2023 • JN 189853

MODJESKA GRADE ROAD, ROAD AND DRAINAGE IMPROVEMENTS
INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Noise Measurement Locations

Exhibit 4.13-1

4.14 Population and Housing

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

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)?

No Impact. A project can induce population growth in an area, either directly (for example, by proposing new homes and/or businesses) or indirectly (for example, through extension of roads or other infrastructure). No residential uses would be developed as part of the Project. Therefore, the Project would not induce unplanned direct population growth in the County or Project vicinity through new housing development.

The Project would involve roadway, drainage, and erosion control improvements along Modjeska Grade Road. During the construction phase of the Project, new temporary construction jobs would be created; however, given the temporary nature of the construction process and limited duration of construction, it is not anticipated that construction employees would relocate to the Project area.

Operationally, the Project would maintain existing vehicular configuration and capacity along Modjeska Grade Road and therefore would not indirectly induce population growth within the County or Project vicinity. Additionally, during Project operations, it is anticipated that existing County staff or County subcontractors would continue to maintain unincorporated roadways, municipal stormwater drainage, and flood control system within County-owned properties, public rights-of-way (ROW), and within dedicated easements on-site and within the Project vicinity in

accordance with the existing Orange County Operations & Maintenance (O&M) agreement. No increase in employment is anticipated as a result of Project implementation.

Mitigation Measures: No mitigation measures are required.

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

No Impact. The Project involves roadway, drainage, and erosion control improvements along Modjeska Grade Road; therefore, the Project would not displace residents or housing, necessitating the construction of replacement housing elsewhere. No impact would occur in this regard.

Mitigation Measures: No mitigation measures are required.

4.15 Public Services

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

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

i) Fire protection?

Less Than Significant Impact. The Orange County Fire Authority (OCFA) provides fire protection services and emergency medical services in the Project area. The closest fire station to the Project site is Fire Station #16, located approximately 0.54 miles northeast of the Project site at 28891 Modjeska Canyon Road, in the unincorporated community of Silverado.[1] Additionally,

[1] Orange County Fire Authority, *Fire Stations*, https://ocfa.org/AboutUs/FireStations.aspx, accessed June 23, 2022.

Fire Station #42, located approximately 1.05 miles from the Project site at 19150 Ridgeline Road, in the City of Lake Forest. The OCFA *Standards of Coverage and Deployment Plan* (SOC) establishes the level of service classification to define response performance objectives and goals.[2] Urban areas typically have response performance objectives shorter than rural and wilderness areas. This accounts for the higher levels of risk that exist within urban areas, and adopts the deployment strategy to serve areas of more dense populations at higher levels than areas of sparse or no population. As depicted in SOC Figure 39, *Level of Service Areas*, the Project site is classified as containing a "rural" level of service and thus, would be subject to the following timeframes as part of OCFA standards of coverage standards: within 12 minutes for priority emergencies involving an OCFA first arriving response unit; within 14 minutes and 30 seconds for priority emergencies involving an OCFA advanced life support care unit; within 16 minutes and 30 seconds for moderate risk structures fires involving an OCFA full effective response force; and within 16 minutes and 30 seconds for a moderate risk rescue incident involving an OCFA full effective response force.[3,4] As depicted in SOC Figure 86, *Received to Arrival Time Performance by Region*, through SOC Figure 88, *Received to Arrival Time Performance by Region – South*, the Project site would not exceed the 12-minute response time for priority emergencies involving an OCFA first arriving response unit.[5] As depicted in SOC Figure 89, *Number of Units within Ten Minutes Travel by Area*, and SOC Figure 90, *Number of Ladder Trucks within Ten Minutes Travel*, portions of the Project site would not exceed the 16 minute and 30 second response time for emergencies involving an OCFA full effective response force. It should be noted that the SOC acknowledges OCFA's service area, including portions of the Project site, does not have sufficient units to provide a full effective response force within ten minutes of travel. However, the SOC establishes a 16 minute and 30 second response time for emergencies involving an OCFA full effective response force. Further, the SOC also acknowledges that data was not available to evaluate the performance within several rural areas. Thus, additional OCFA full effective response force units may be available to respond to the Project site within the established OCFA standards of coverage standards. Further, as a roadway, drainage, and erosion control improvement Project, the proposed Project would not substantially increase the need for fire protection services since the Project would not directly or indirectly induce population growth or development. As such, less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

[2] Orange County Fire Authority, *Standards of Coverage and Deployment Plan*, 2014, chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ocfa.org/_uploads/pdf/Orange%20County%20Fire%20Authority%20SOC_FINAL.pdf, accessed June 21, 2024.

[3] Response time performances, for which the Standards of coverage standards are established, are measured from the receipt of the call at the dispatch center to arrival at the location of the emergency, 90 percent of the time.

[4] A full effective response force is the number of personnel and apparatus required to be present on the scene of an emergency incident to perform the critical tasks in such a manner as to effectively mitigate the incident without unnecessary loss of life and/or property.

[5] As depicted in SOC Figure 77, *Dispatch to Arrival Time Performance – First Arriving Unit*, emergency medical services, fire, rescue, and others are grouped together as "first arriving units." Advanced life support care units may be included in this total.

ii) Police protection?

No Impact. The Orange County Sherriff's Department (OCSD) provides police protection and emergency services to the Project area. The North Operations Division is responsible for patrol services within the north Orange County unincorporated areas.[6] The nearest station to the Project site is the OCSD Lake Forest Station located approximately 2.3 miles south of the Project site at 20202 Windrow Drive, in the City of Lake Forest. As a roadway, drainage, and erosion control improvement Project, the proposed Project would not substantially increase the need for police protection services. The Project does not propose new land uses capable of substantially increasing the need for police protection services are proposed. Therefore, the Project would not increase the demand for additional police protection services or involve the construction of any new or physically altered police protection facilities. No impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

iii) Schools?

No Impact. The Saddleback Valley Unified School District (SVUSD) provides school services to the Project area. The Project site is partially located within SVUSD school boundaries. The closest school to the Project site is Portola Hills Elementary School, located approximately 1.10 miles southeast at 19422 Saddleback Ranch Road, in the City of Lake Forest.[7] Implementation of the proposed Project would not result in the need for the construction of additional school facilities, as the Project would not result in an increase in the student population. Therefore, no impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

iv) Parks?

No Impact. The County currently owns and operates approximately 21 wilderness and regional parks.[8] As a roadway, drainage, and erosion control improvement Project, the proposed Project would not increase population growth and thus would not increase the need for parks or recreational facilities. No impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

v) Other public facilities?

No Impact. As discussed above in Responses 4.15(a)(i) through 4.15(a)(iv), the proposed Project would not result in any potentially significant impacts related to public services. The Project would not increase the County's existing population and would not introduce any uses that would increase demand for other public facilities, including library services. No impacts would occur in this regard.

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[6] Orange County Sherriff's Department, *North Operations*, https://ocsheriff.gov/commands-divisions/patrol-operations-command/north-operations, accessed June 23, 2022.

[7] Saddleback Valley Unified School District, *Approved Trustee Areas*, https://www.svusd.org/uploaded/SVUSD_Department_Files/Board_of_Education/Documents/2021-22/CVRA/SVUSD_Adopted_Map_Trustee_Voting_Area_2022.pdf, accessed June 23, 2022.

[8] OC Parks, *Parks and Trails*, https://ocparks.com/parks-trails, accessed June 23, 2022.

Mitigation Measures: No mitigation measures are required.

4.16 Recreation

Would the Project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) 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) 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. Refer to Response 4.15(a)(iv). As a roadway, drainage, and erosion control improvement Project, the proposed Project would not result in direct or indirect population growth that would result in the increased use of recreational facilities in the Project area. Therefore, the proposed Project would not result in the physical deterioration of these facilities. No impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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 does not include recreational facilities, nor would it require the construction or expansion of existing recreational facilities. No impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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4.17 Transportation

Would the Project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☒	☐	☐
b) Would the project conflict or be inconsistent with CEQA 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) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact With Mitigation Incorporated.

Roadway Facilities

Refer to Response 4.17(b) for an analysis of potential Project impacts related to roadways.

Bicycle and Pedestrian Facilities

There are no bicycle or pedestrian facilities that occur along Modjeska Grade Road. However, according to the Orange County General Plan, *Bikeway Plan Map*, Class II bike lanes occur along East Santiago Canyon Road within the Project vicinity. As depicted in District 5 Bikeways Strategy Report, Figure 3.6, *Corridor E: Aliso Creek*, a Class I Bikeway facility is identified as a future planned improvement (i.e., the Aliso Creek Corridor). According to the Orange County General Plan, a Class I Bikeway is a paved off-road facility that is physically separated from a roadway and

designated primarily for the use of bicycles. A Class II Bikeway is defined as a facility featuring a striped lane on the paved area of a road for preferential use by bicycles.

Project improvements along Modjeska Grade Road, near the intersection of East Santiago Canyon Road and Modjeska Grade Road, include roadway re-pavement and drainage improvements. The majority of these improvements would occur within OC Public Works right-of-way. However, construction activities associated with these Project improvements may temporarily impact existing bicycle facilities along East Santiago Canyon Road, which may include intermittent use of flaggers to pause vehicular and bicycle traffic for construction equipment activities and shifting of the westbound traffic lane and bicycle lane at the intersection. As such, a Traffic Management Plan (TMP) would be required to maintain vehicular traffic flow, bicyclist access, and emergency access during construction (MM TRA-1). Bicycle lanes would be required to remain open and accessible, to the greatest extent feasible, during construction or be re-routed to ensure continued connectivity. Implementation of MM TRA-1 would ensure that impacts would be less than significant in this regard.

Transit Facilities

There are no transit routes or stations that occur along Modjeska Grade Road or within the immediate vicinity. Therefore, the Project would not conflict with a program, plan, ordinance, or policy addressing transit facilities. No impacts would occur in this regard.

Mitigation Measures:

TRA-1 Prior to issuance of a grading permit, Orange County Public Works shall prepare a Traffic Management Plan (TMP). The TMP shall include measures such as construction signage, noticing of closures along Modjeska Grade Road and alternative routes, limitations on timing for lane closures to avoid peak hours, temporary striping plans, and the need for a construction flagperson to direct traffic during heavy equipment use. The TMP shall specify that one direction of travel in each direction must always be maintained along Modjeska Grade Road and East Santiago Canyon Road throughout Project construction. Bicycle lanes within Project limits shall remain open and accessible, to the greatest extent feasible, during construction or shall be re-routed to ensure continued connectivity. The TMP shall be incorporated into Project specifications for verification prior to final plan approval.

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

No Impact. OC Public Works provides VMT analysis procedures for determining transportation impacts in accordance with Senate Bill 743 (SB 743) in the *Transportation Implementation Manual* (Transportation Manual), updated September 2021 (Reso. No. 21-138). Consistent with the Office of Planning and Research (OPR), *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Advisory), dated December 2018, the OC Public Works Transportation Manual provides a list transportation project types that would typically not lead to a substantial or measurable increase in vehicle travel and that, therefore, can be screened out of the requirement to perform an induced travel analysis and are anticipated to result in less than significant transportation impacts. These types of transportation projects are generally related to safety and maintenance as well as projects that improve intersection efficiency such as turning pockets or signal optimization.

Due to the existing mountainous terrain and existing soil conditions on-site, the Project site and surrounding properties experience soil erosion, roadway washouts, and localized stormwater flooding during large storm events. The Project proposes to provide roadway, drainage, and erosion control improvements to address the existing drainage and erosion deficiencies experienced along Modjeska Grade Road during the storm seasons. These improvements would result in reduced maintenance needs, and safety enhancements for residents and travelers along Modjeska Grade Road, in addition to the surrounding uses along the corridor. Modjeska Grade Road would maintain its current roadway configuration, with one lane in each direction. The Project would not increase the vehicular capacity of Modjeska Grade Road; therefore, the Project would not result in any change in the area's total VMT. No impact would occur in this regard.

Mitigation Measures: No mitigation measures are required.

c) 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. The proposed roadway, drainage, and erosion control improvements do not involve any new land uses or features that would be incompatible with the Project site's existing use as a rural highway. Rather, the proposed improvements would result in the rehabilitation of the existing roadway pavement and paving roadway shoulders, constructing a retaining wall, upgrading guardrails, improving drainage, and installing erosion control measures. These improvements are safety enhancements for residents and travelers along Modjeska Grade Road and surrounding uses. Therefore, the Project would not substantially increase hazards due to a geometric design feature or incompatible feature. No impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

d) Result in inadequate emergency access?

Less Than Significant Impact With Mitigation Incorporated. Construction activities associated with Project implementation would require single lane temporary closures and extended full lane temporary closures on-site along Modjeska Grade Road; refer to Section 2.6, *Project Construction and Phasing*. As such, implementation of a TMP would be required to maintain adequate emergency access during the construction process (MM TRA-1). Under MM TRA-1, emergency access to all residences along Modjeska Grade Road would be required to remain open and accessible for the duration of the construction process. Further, OC Public Works would continue to coordinate with and notify the Orange County Fire Authority (OCFA) and Orange County Sheriff's Department (OCSD) of temporary partial and full lane closures and detour routes prior to construction. With the implementation of MM TRA-1, coordination with and notification of OCFA and OCSD, and with compliance with State and City regulations pertaining to emergency access, impacts in this regard would be reduced to less than significant levels.

Mitigation Measures: Refer to MM TRA-1 in Section 4.17(a).

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4.18 Tribal Cultural Resources

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

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

This section is partially based upon the *Phase I Cultural Resources Assessment for the Modjeska Grade Road Improvements Project, County of Orange, California* (Cultural Resources Assessment), prepared by Michael Baker International, dated November 2023; refer to Appendix C, *Cultural Resources Assessment*.

As of July 1, 2015, California Assembly Bill 52 (AB 52) was enacted and expanded CEQA by establishing a formal consultation process for California tribes within the CEQA process. The bill specifies that any project that may affect or cause a substantial adverse change in the significance of a tribal cultural resource would require a lead agency to "begin consultation with a California Native American tribe that is traditional and culturally affiliated with the geographic area of the proposed project." Section 21074 of AB 52 also defines a new category of resources under CEQA called tribal cultural resources. Tribal cultural resources are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is either listed on or eligible for the California Register of Historical Resources or a local historic register, or if the lead agency chooses to treat the resource as a tribal cultural resource.

As required under AB 52, the County distributed letters on December 18, 2023 notifying each Native American tribe that requested to be on the County's list for the purposes of AB 52 of the opportunity to consult with the County regarding the Project. The letters provided a description of the Project and notified each tribe of the opportunity to consult with the County regarding the Project. No requests for tribal consultation were received by the County during the 30-day tribal response period.

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).

Less Than Significant Impact With Mitigation Incorporated. As detailed in Response 4.5(a), the sensitivity for potential undocumented prehistoric and historic period archaeological

sites is considered low. However, there is potential to encounter previously unknown cultural resources (including historical resources as defined in Public Resources Code Section 5020.1[k]) during grubbing, clearing, and/or excavation activities in previously undisturbed areas of the Project site during Project construction. As such, the Project would be required to implement MM CUL-1, which would ensure cultural resources sensitivity training be provided for all construction personnel. MM CUL-2 would ensure cultural resources are protected in the event previously unknown cultural resources are discovered during earthmoving activities associated with the proposed Project. With implementation of MMs CUL-1 and CUL-2, impacts pertaining to historical resources would be less than significant in this regard.

Although the Project area is not in an area of previously identified archaeological sensitivity, the possibility exists that undiscovered cultural resources may be encountered during ground disturbing activities associated with the proposed Project. Implementation of Standard Condition of Approval (SC) SC-TCR-1 would provide consulting Native American groups the opportunity to examine inadvertently discovered prehistoric cultural resources and consult on the identification, evaluation, and protection of tribal cultural resources, if they are discovered during construction.

Standard Conditions of Approval:

SC-TCR-1: Unanticipated Discovery of Archaeological Resources. If unanticipated archaeological resources or deposits are discovered during ground disturbing activities, Orange County Public Works (OC Public Works) shall implement the following measures. All work shall halt within a 50-foot radius of the discovery. OC Public Works shall retain a qualified professional archaeologist with knowledge of Native American resources to assess the significance of the find. If the resources are Native American in origin, OC Public Works shall coordinate with the Tribe regarding evaluation, treatment, curation, and preservation of these resources. The archaeologist shall have the authority to modify the no-work radius as appropriate, using professional judgment in consultation with OC Public Works. Work shall not continue within the no work radius until the archaeologist conducts sufficient research and evidence and data collection to establish that the resource is either: (1) not cultural in origin; or (2) not potentially eligible for listing on the California Register of Historical Resources. If a potentially eligible resource is encountered, then the archaeologist and OC Public Works, as lead agency, in consultation with the Tribe, shall arrange for either: (1) avoidance of the resource, if possible; or (2) test excavations to evaluate eligibility, and if eligible, attempt to resolve adverse effects through implementation of appropriate mitigation, which may include, but shall not be limited to, salvage excavation, laboratory analysis and processing, research, curation, and preparation of a report summarizing the find. The assessment of eligibility shall be formally documented in writing as verification that the provisions in the California Environmental Quality Act for managing unanticipated discoveries and Public Resources Code Section 5024 have been met.

Mitigation Measures: Refer to MMs CUL-1 and CUL-2 in Section 4.5(a).

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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant Impact With Mitigation Incorporated. As noted above, the County solicited consultation with potentially affected Native American tribes regarding the Project in accordance with AB 52 on December 28, 2023; no requests for tribal consultation were received by the County during the 30-day tribal response period.

Notwithstanding, if suspected archaeological deposits are discovered during Project construction, all work within the immediate area of the discovery would be redirected and the find would be evaluated for significance by a qualified archaeologist (MM CUL-2). In the event that the unknown cultural resources are identified as Native American in origin, a qualified archaeologist would be required to consult with the County to implement Native American consultation procedures as required by State law. Further, if human remains are found, the Project would implement MM CUL-3, which would ensure project compliance with the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code, including notification of the County Coroner, notification of the Native American Heritage Commission, and consultation with the individual identified by the Native American Heritage Commission to be the most likely descendant. Upon implementation of all applicable regulations and MM CUL-2 and CUL-3, potential impacts to tribal cultural resources would be reduced to less than significant levels.

Mitigation Measures: Refer to MM CUL-2 and CUL-3 in Sections 4.5(a) and 4.5(c).

4.19 Utilities and Service Systems

Would the Project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment 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) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact. The proposed Project would include roadway, drainage, and erosion control improvements along Modjeska Grade Road within the Project limits. The Project does not propose any new land uses that would result in the construction of new or expanded water, wastewater treatment, or natural gas facilities. Various at-grade utility appurtenances, such as water valve caps, water meters, backflow preventers, pull box lids, telephone pedestals, and electric pull boxes would be adjusted to grade. Construction of the proposed underground storm drain systems would require relocation of underground water, electrical, and communication lines. All other utilities would be protected in place. During relocation activities associated with Project construction, utility services may be temporarily impacted; however, service interruptions would be temporary and cease upon completion of relocation activities. Refer to Response 4.10(c) for impacts relating to stormwater drainage. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact. Project construction would temporarily require the use of water for dust control; however, this temporary water usage would be nominal and would cease upon Project completion. The proposed Project involves roadway, drainage, and erosion control improvements along the existing Modjeska Grade Road corridor and would not introduce a new land use that would require water consumption during Project operations. Less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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

No Impact. Refer to Response 4.19(b). The proposed Project would not construct any uses capable of producing wastewater. No impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact. As a roadway improvement, the proposed Project would not introduce a new land use that would have the capability to produce solid waste during long-term operations. Although the Project may require the disposal of construction debris during the grading/excavation process (e.g., soil, asphalt, concrete, and other construction-related materials), the generation of these materials would be short-term in nature and would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

Three active landfills (Olinda Alpha, Frank R Bowerman, and Prima Deshecha) are operated by the County of Orange, Waste and Recycling Department. The Olinda Alpha Landfill is located at 1942 North Valencia Avenue, in the City of Brea, and accepts public and commercial solid waste. The Olinda Alpha Landfill has a permitted disposal rate of 8,000 tons per day (TPD) and has enough projected capacity to remain open until 2030.[1] The Frank R. Bowerman Landfill is located at 11002 Bee Canyon Access Road, in the City of Irvine, and accepts municipal solid waste from commercial haulers and vehicles operating under commercial status. The Frank R. Bowerman Landfill has a permitted disposal rate of 11,500 TPD and has enough projected capacity to remain open until 2053.[2] The Prima Deshecha Landfill is located at 32250 Avenida La Pata, in the City of San Juan Capistrano, and accepts public and commercial solid waste from Orange County residents and businesses. The Prima Deshecha Landfill has enough projected capacity to remain open until 2102.[3] Solid waste generated by the Project during construction would be taken to one of the landfills or approved facilities identified by the Orange County Construction and Demolition Program.

All construction activities would be subject to conformance with relevant federal, State, and local requirements related to solid waste disposal. Specifically, the Project would be required to demonstrate compliance with the California Integrated Waste Management Act of 1989 (AB 939), which requires all California local jurisdictions to "reduce, recycle, and re-use solid waste generated in the State to the maximum extent feasible." AB 939 requires that at least 50 percent of waste produced is recycled, reduced, or composted. The project would also be required to demonstrate compliance with CALGreen, which includes design and construction measures that act to reduce construction-related waste though material conservation measures and other construction-related efficiency measures. Compliance would be verified by the County through review of project plans and specifications. Compliance with these programs would ensure the project's construction-related solid waste impacts are less than significant.

In accordance with existing County solid waste requirements, OC Public Works would complete and submit a construction and demolition program application and prepare a tonnage report for County of Orange, Waste and Recycling Department review and approval. With implementation of existing federal, State, and local requirements, impacts would be less than significant.

[1] County of Orange, OC Waste and Recycling, Olinda Alpha Landfill, https://oclandfills.com/landfills/olinda-landfill, accessed on November 19, 2023

[2] County of Orange, OC Waste and Recycling, Olinda Alpha Landfill, https://oclandfills.com/landfills/frank-r-bowerman-landfill, accessed on November 19, 2023

[3] County of Orange, OC Waste and Recycling, Olinda Alpha Landfill, https://oclandfills.com/landfills/prima-deshecha-landfill, accessed on November 19, 2023

Mitigation Measures: No mitigation measures are required.

e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. The proposed Project would comply with all federal, State, and local statutes and regulations related to solid waste, including the California Integrated Waste Management Act, Mandatory Commercial Recycling Law, and County of Orange requirements for solid waste generated during the construction process. Impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

4.20 Wildfire

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

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact With Mitigation Incorporated. Refer to Response 4.9(f). According to the *Unified County of Orange and Orange County Operational Area Emergency*

Operations Plan, Orange County is currently using the Standardized Emergency Management System (SEMS) for emergency response, where depending on the type of incident, responsible agencies and disciplines may be called upon to assist with emergency response. Agencies and disciplines that can be expected to be part of an emergency response team include medical, health, fire and rescue, police, public works, and the coroner, among other responsible agencies and disciplines.

Similar to existing conditions, emergency access would continue to be provided along Modjeska Grade Road. Although construction activities would require single lane temporary closures and extended full lane closures on-site along Modjeska Grade Road (refer to Section 2.6, *Project Construction and Phasing*), the implementation of a construction traffic management plan (TMP) would maintain emergency access during the construction phase of the Project (MM TRA-1). The TMP may include potential measures such as construction signage, noticing of closures along Modjeska Grade Road and alternative routes, limitations on timing for lane closures to avoid peak hours, temporary striping plans, and the need for a construction flag person to direct traffic during heavy equipment use, among others. Implementation of the TMP would provide congestion relief for motorists and emergency vehicles during short-term construction activities and ensure safe travel on-site and along existing travel routes. Further, prior to issuance of a grading permit, MM WF-2 would require the Project contractor in coordination with OC Public Works to prepare an Emergency and Construction Fire Prevention Plan for approval by the Orange County Fire Authority (OCFA) Fire Chief, or their designee, and the Orange County Sheriffs Department. The Emergency and Construction Fire Prevention Plan must include, but not limited to, measures such as a detailed schedule of construction activities, after-work hours emergency contact information, fire safety measures in compliance with the National Fire Protection Association Standard 51B and California Public Resources Code Section 4442, and emergency operational procedures in the event of a wildland fire, structural fire, red flag day, emergency involving emergency medical services (EMS), loss of power, and flood emergencies. Implementation of MMs TRA-1 and WF-2 would ensure that the impacts to existing emergency and evacuation plans would be reduced to less than significant levels.

Project operations would not impair local or regional access on-site or within the site vicinity. The proposed Project would improve the existing roadway conditions by widening travel lanes, constructing new and/or widened shoulders, re-paving, installing guardrail, and improving drainage and erosion on-site. These Project improvements result in beneficial enhancements that would improve access and mobility along Modjeska Grade Road.

Mitigation Measures: Refer to MM TRA-1 in Section 4.17(a) and MM WF-2 in Section 4.20(b).

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?

Less Than Significant Impact With Mitigation Incorporated. According to the California Department of Forestry and Fire Protection, the Project site is located within a Very High Fire Hazard Severity Zone in a State Responsibility Area (SRA).[1] Additionally, the Modjeska Grade

[1] California Department of Forestry and Fire Protection, *Very High Fire Hazard Severity Zones in SRA As Recommended by CAL FIRE*, November 7, 2007, https://osfm.fire.ca.gov/media/6737/fhszs_map30.pdf, accessed July 11, 2022.

Road and East Santiago Canyon Road intersection is located within a Very High Fire Hazard Severity Zone in a Local Responsibility Area (LRA).[2]

Pursuant to the Disaster Mitigation Act of 2000 (DMA 2000), the County of Orange and OCFA developed the *Local Hazard Mitigation Plan* (LHMP) as a multi-jurisdiction plan to promote sound public policy designed to protect citizens, critical facilities, infrastructure, private property, and the environment from natural hazards.[3] The LHMP efforts include identifying and profiling hazards, analyzing the people and facilities at risk, and developing mitigation actions to reduce or eliminate hazard risk. The LHMP identifies typical wildfire characteristics, the County's susceptibility to wildfires, and mitigation action items. Implementation of the activities in the LHMP includes short- and long-term strategies that involve planning, policy changes, programs, projects, and other activities to minimize risk from natural hazards including wildfire.

Additionally, during construction, the Project would be required to comply with existing regulations outlined in Chapter 33 of the California Fire Code (CFC), *Fire Safety During Construction and Demolition*, which outlines safety provisions and precautions to minimize fire risks. The Project would also adhere to the Orange County Code of Ordinances Section 324, *Use of Equipment*, which prohibits the use of internal combustion engines that use hydrocarbon fuels upon or adjoining any hazardous fire area. Further, as required by MM WF-1, in the event of a red flag warning by the National Weather Service (NWS), all construction activities involving hot work, defined as work involving electric or gas welding, cutting, brazing, or similar flame or spark-producing operations, must cease until the NWS lifts the red flag warning, and the construction contractor indicates construction activities involving hot work can continue as normal. Prior to issuance of a grading permit, MM WF-2 would require the Project contractor in coordination with OC Public Works to prepare an Emergency and Construction Fire Prevention Plan for approval by the OCFA Fire Chief, or their designee, and the Orange County Sheriffs Department. The Emergency and Construction Fire Prevention Plan must include, but not limited to, measures such as a detailed schedule of construction activities, after-work hours emergency contact information, fire safety measures in compliance with the National Fire Protection Association Standard 51B and California Public Resources Code Section 4442, and emergency operational procedures in the event of a wildland fire, structural fire, red flag day, emergency involving EMS, loss of power, and flood emergencies. Lastly, as required by MM WF-3, atleast two weeks prior to the commencement of construction activities, OC Public Works would be required to post the following: 1) Information regarding OCFA's "Ready, Set, Go!" safety program; 2) An emergency evacuation route map for the immediate area/vicinity; and 3) The direct phone number of OCFA Fire Stations 16 and 42, on the community bulletin board located at 28890 Modjeska Canyon Road, Silverado, California 92676. This information must also be provided via mail to nearby residents of Modjeska Canyon affected by the proposed Project.

During long-term operations, the Project site would continue to operate as a roadway facility. The Project would not introduce new land uses that would expose people or structures to a significant risk of loss, injury, or death involving wildland fires. The Project would comply with the Orange County Code of Ordinances Section 322, *Clearance of Brush or Vegetation Growth from Roadways*, which would ensure that areas within 10 feet on each side of highways and private

[2] California Department of Forestry and Fire Protection, *Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE*, October 2011, https://osfm.fire.ca.gov/media/6739/fhszl_map30.pdf, accessed June 24, 2022.

[3] County of Orange and Orange County Fire Authority, *Local Hazard Mitigation Plan*, December 2021.

streets be cleared of flammable vegetation and other combustible growth as authorized by the fire code official. The proposed Project would also install hydroseed, open weave textile, and wire blankets within various areas of Modjeska Grade Canyon Road as form of erosion control measures. These measures would prevent exposure to future wildland fire damages including flooding and mudflows following a wildland fire event on-site and within the surrounding vicinity. Thus, with implementation of MMs WF-1 through WF-3, and existing local, State, and regional regulations, impacts would be reduced to less than significant levels.

Mitigation Measures:

WF-1 In the event a red flag warning is issued by the National Weather Service (NWS), all construction activities involving hot work, defined as work involving electric or gas welding, cutting, brazing, or similar flame or spark-producing operations, shall cease until the NWS lifts the red flag warning, and the construction contractor indicates construction activities involving hot work can continue as normal.

WF-2 Prior to issuance of a grading permit, the Project contractor in coordination with Orange County Public Works shall prepare an Emergency and Construction Fire Prevention Plan for approval by the Orange County Fire Authority Fire Chief, or their designee, and the Orange County Sheriffs Department. The Emergency and Construction Fire Prevention Plan shall include, but not be limited to, measures such as a detailed schedule of construction activities, after-work hours emergency contact information, fire safety measures in compliance with the National Fire Protection Association Standard 51B and California Public Resources Code Section 4442, and emergency operational procedures in the event of a wildland fire, structural fire, red flag day, emergency involving emergency medical services (EMS), loss of power, and flood emergencies.

WF-3 At least two weeks prior to the commencement of construction activities, the Project contractor shall post the following: 1) Information regarding Orange County Fire Authority's "Ready, Set, Go!" safety program; 2) An emergency evacuation route map for the immediate area/vicinity; and 3) The direct phone number of Orange County Fire Authority Fire Stations 16 and 42, on the community bulletin board located at 28890 Modjeska Canyon Road, Silverado, California 92676. This information shall also be provided via mail to nearby residents of Modjeska Canyon affected by the proposed Project.

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?

Less Than Significant Impact With Mitigation Incorporated. Refer to Response 4.20(b). While the proposed Project would include various roadway improvements to Modjeska Grade Road, implementation of MM TRA-1 and MMs WF-1 through WF-3, and compliance with local, State, and regional regulations would minimize potential fire risk. Thus, impacts would be reduced to less than significant levels.

Mitigation Measures: Refer to MM TRA-1 in Section 4.17(a) and MMs WF-1 through WF-3 in Section 4.20(a).

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?

Less Than Significant Impact. Refer to Responses 4.10(c)(i), 4.10(c)(ii), and 4.20(b). Based on Responses 4.10(c)(i) and (ii), Project implementation would not result in an increased risk to people or structures as it relates to flooding or soil instability. The proposed Project would not introduce new land uses that would expose people or structures to significant risk from post-fire slope instability or drainage changes. Rather, the proposed Project would provide roadway, drainage, and erosion control improvements, resulting in beneficial enhancements along the roadway. Thus, impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

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4.21 Mandatory Findings of Significance

Would the Project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but 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 With Mitigation Incorporated. As discussed in Section 4.4, *Biological Resources*, the Project has the potential to impact special-status plant species, wildlife species, and vegetation communities, and sensitive natural communities.

To address impacts to special-status plant species, the Project would implement MM BIO-1. MM BIO-1 would require a focused rare plant surveys in areas with suitable habitat to determine presence or absence of special-status plant species to reduce potential impacts to special-status plant species to less than significant levels.

To address impacts to special-status wildlife species, the Project would implement MMs BIO-2 through BIO-9.

MM BIO-2 would ensure a pre-construction clearance survey for special-status amphibians and reptile species is conducted 24-hours prior to installation of wildlife exclusion fencing (WEF), vegetation clearing, and/or initiation of ground disturbing activities.

MM BIO-3 would require the construction contractor to install WEF along the Project boundaries, within suitable habitat for special-status amphibian and reptile species, prior to ground disturbing activities.

MM BIO-4 would require construction pipes, culverts, or similar structures stored within the Project area (for one or more overnight periods) to be either securely capped prior to storage or thoroughly inspected by the construction contractor and/or qualified biologist for special-status wildlife species.

MM BIO-5 would require the construction contractor and/or qualified biologist to ensure excavated, steep-walled holes or trenches (more than six inches deep) are provided with one or more escape ramps constructed of earthen fill or wooden planks.

MM BIO-6 would require a qualified biologist to conduct up to three on-site surveys (two to four weeks apart per the California Department of Fish and Wildlife's [CDFW] recommendation) prior to ground disturbing activities. If Crotch bumble bees or potential Crotch bumble bees (since bumble bees can be difficult to identify in the field) are observed within the site, a plan to protect Crotch bumble bee nests and individuals would be required to be developed and implemented in consultation with CDFW.

MM BIO-7 would generally require vegetation removal to occur outside of the Coastal California gnatcatcher/migratory bird nesting season (February 1st through September 31st). If the nesting season cannot be avoided, MM BIO-7 would require a pre-construction nesting bird clearance survey be conducted within three days prior to vegetation removal to determine the presence/absence, location, and status of any active nests within the Project site. If the nesting bird clearance survey indicates the presence of nesting migratory birds, MM BIO-7 requires

buffers to ensure that any nesting migratory native birds are protected pursuant to the Migratory Bird Treaty Act.

Lastly, MM BIO-8 ensures that grading of chamise – sage chaparral habitat that is occupied by nesting coastal California gnatcatcher does not occur during the breeding season (February 1st through September 31st). Prior to the commencement of grading activities or other activities involving substantial soil disturbance, areas of chamise – sage chaparral habitat to be avoided under the provisions of the Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) require identification with temporary fencing or other markers clearly visible to construction personnel. A biologist acceptable to the U.S. Fish and Wildlife Service (USFWS)/CDFW would be required to be on-site during any clearing of chamise – sage chapparal. Pre-construction meetings would also be conducted and documented to ensure maximum practicable adherence to the aforementioned measures. Further, chamise – sage chapparal identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas must be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.

To reduce impacts to chamise – sage chaparral, sensitive natural vegetation communities, and critical habitat, implementation of MMs BIO-8 through BIO-16 would be required. MM BIO-8 is described above.

MM BIO-9 requires the Project limits in the vicinity of Santiago Creek and associated riparian areas and natural vegetation communities along Modjeska Grade Road to be marked with high visibility Environmentally Sensitive Area (ESA) fencing or staking to ensure construction activities would not further encroach into those habitats.

MM BIO-10 requires Project personnel to attend a biological awareness training session delivered by the Project biologist.

MMs BIO-11 and BIO-12 would ensure best management practices (BMPs) are implemented to reduce erosion potential and minimize the potential for water quality pollutants to affect sensitive natural communities during construction activities.

MM BIO-13 requires riparian vegetation within temporary construction zones to be trimmed or cleanly cut to ground level and then covered with a layer of clean gravel or topsoil as necessary to protect plant viability and prevent damage to remaining root structures during construction activities.

MM BIO-14 requires the Project biologist to monitor construction activities within the vicinity of riparian habitats, riverine habitats and sensitive habitats of concern to ensure that vegetation removal, BMPs, ESAs, and all avoidance, minimization, mitigation measures are properly constructed and followed.

MM BIO-15 requires temporary impacts to jurisdictional waters, riparian woodland, and arroyo toad critical habitat during Project construction to be avoided and minimized to the greatest extent feasible. Mitigation for unavoidable temporary impacts would be required to be prescribed in a Habitat Mitigation and Monitoring Plan that identifies the approach to habitat restoration and/or enhancement and subsequent monitoring and maintenance of the site to restore the functions and values of the impacted habitat. Mitigation may also be achieved by payment of an in-lieu fee to an agency approved mitigation bank, or restoration and/or enhancement of similar

habitats at off-site locations determined by OC Public Works. The Habitat Mitigation and Monitoring Plan and approach to mitigating temporary impacts must be coordinated with the regulatory agencies (i.e. CDFW, Regional Water Quality Control Board, and USFWS) and require approval prior to Project implementation.

MM BIO-16 would ensure mature native trees located throughout the Project site (i.e., coast live oak, California sycamore, and southern California black walnut) along Modjeska Road are protected during Project construction activities. Prior to Project construction activities, MM BIO-16 would require a certified arborist to mark these mature native trees with tree trunk and limb protection wrap and signage. The tree trunk and limb protection warp material must be composed of double sided geocomposite, geonet core with non-woven covering (e.g., Tenax Tendrain 770/2) or equivalent. The tree trunk and limb protection wrap would be required to completely cover the tree, extending from the base of the tree (i.e., bottom of the trunk/root flare) to at least 10 feet in height or to the first tree limb. Tree protection signage must be attached directly to the tree trunk and limb protection wrap (i.e., to avoid contact with the tree trunk) or affixed to sign post installed adjacent to such trees. Tree trunk and limb protection wrap and signage must be removed upon completion of Project-related activities.

If the removal of trees cannot be avoided during construction activities, MM BIO-17 requires the County to replant any mature native trees removed from within the Project site, including natural communities of special concern within the Santa Ana River watershed. Within the Foothill/Trabuco Specific Plan area, any oak tree exceeding five inches in diameter at 4.5 feet above the existing grade, removed in accordance with an approved Tree Management/Preservation Plan, must be transplanted. Any oak tree over five inches in diameter that is in poor health and would not survive transplantation (as certified by an arborist), would require replacement with a minimum 15-gallon tree in accordance with the Foothill/Trabuco Specific Plan. Additionally, any sycamore tree exceeding 35-inches in diameter must be preserved, transplanted, or replaced by an identical species of equal or greater size. Sycamore trees less than 35-inches in diameter must be replaced in accordance with the Foothill/Trabuco Specific Plan. In the event all replacement trees cannot be accommodated on the Project site, an off-site mitigation program may be permitted; however, all replacement trees must be located within the Foothill/Trabuco Specific Plan area. Lastly, any species of tree (other than oak or sycamore trees) must be transplanted or replaced with a minimum 15-gallon tree at a replacement ratio of 1:1 in accordance with the Foothill/Trabuco Specific Plan.

Upon implementation of MMs BIO-1 through BIO-17, the Project is not anticipated to 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, or reduce the number or restrict the range of a rare or endangered plant or animal.

As indicated in Section 4.5, *Cultural Resources*, and Section 4.18, *Tribal Cultural Resources*, Project implementation is not anticipated to result in impacts to cultural or tribal cultural resources given the lack of known prehistoric sites on-site, the developed and disturbed nature of Modjeska Grade Road and areas immediately adjacent to it, and the fact that much of the Project site lies within very old formations. However, there is potential to encounter previously unknown cultural resources during grubbing, clearing, and/or excavation activities in previously undisturbed areas of the Project site during Project construction. As such, the Project would be required to implement MM CUL-1, which would ensure cultural resources sensitivity training be provided for all construction personnel. MM CUL-2 would ensure cultural resources are protected in the event previously unknown cultural resources are discovered during earthmoving activities.

Further, if human remains are found, the Project would implement MM CUL-3, which would require those remains receive proper treatment in accordance with applicable laws. State of California Public Resources Health and Safety Code Section 7050.5 through 7055 describe the general provisions for human remains. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are accidentally discovered during excavation of a site. As required by State law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code would be implemented, including notification of the County Coroner, notification of the Native American Heritage Commission, and consultation with the individual identified by the Native American Heritage Commission to be the most likely descendant. If human remains are found during excavation, excavation must stop near the find and any area that is reasonably suspected to overlay adjacent remains until the County Coroner has been notified, the remains have been investigated, and appropriate recommendations have been made for the treatment and disposition of the remains.

Further, if unknown cultural resources found are identified as Native American in origin, a qualified archaeologist would be required to consult with the City of Orange to implement Native American consultation procedures. Further, as indicated in Section 4.7 *Geology and Soils*, the Paleo Report concluded that the Project has a high potential to disturb paleontological resources within undisturbed bedrock due to the fossil sensitivity of the rock formations present within the Project area (young axial channel deposits of Holocene to late Pleistocene age, Eocene Santiago Formation, Paleocene Silverado Formation, Late Cretaceous Pleasants Sandstone and Schulz Ranch Members of the Williams Formation, and Late Cretaceous Baker Canyon Member of the Ladd Formation). As such, the Project would be required to implement MM GEO-1, which would require paleontological sensitivity training to be provided to all relevant personnel and paleontological monitoring to be conducted during ground disturbance activities; if discovery of unknown paleontological resources occur during earthwork, construction activities would be redirected, the find would be evaluated for significance, and treatment recommendations would be provided.

Implementation of MMs CUL-1 throughCUL-3, and GEO-1 would ensure the Project's potential impacts regarding cultural or tribal cultural resources are reduced to less than significant levels. Thus, the Project would not eliminate important examples of major periods of California history or prehistory, and impacts in this regard would be less than significant.

Therefore, the Project would not substantially degrade the quality of 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.

Mitigation Measures: Refer to MMs BIO-1 through BIO-17 in Section 4.4(a) and 4.4(b), CUL-1 through CUL-3 in Sections 4.5(a) and 4.5(c), and GEO-1 in Section 4.7(f).

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 With Mitigation Incorporated. A significant impact may occur if a proposed Project, in conjunction with related projects, would result in impacts that are less than significant when viewed separately, but would be significant when viewed together. As concluded in Sections 4.1 through 4.20, the Project would not result in any significant impacts in any environmental categories with implementation of proposed mitigation measures. Implementation of mitigation measures at the project-level would reduce the potential for the incremental effects of the proposed Project to be less than considerable when viewed in connection with the effects of past projects, current projects, or probable future projects.

Mitigation Measures: Refer to MMs BIO-1 through BIO-17 in Section 4.4(a) and 4.4(b), CUL-1 through CUL-3 in Sections 4.5(a) and 4.5(c), GEO-1 in Section 4.7(f), HAZ-1 in Section 4.9(b), NOI-1 in Section 4.13(a), TRA-1 in Section 4.17(a), and WF-1 through WF-3 in Section 4.20(b).

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

Less Than Significant With Mitigation Incorporated. This Initial Study reviewed the proposed Project's potential impacts related to aesthetics, air quality, geology and soils, greenhouse gases, hydrology/water quality, noise, hazards and hazardous materials, traffic, among other disciplines. As concluded in this Initial Study, the proposed Project would result in less than significant impacts with implementation of the recommended mitigation measures. Therefore, the Project would not result in environmental impacts that would cause substantial adverse effects on human beings.

Mitigation Measures: Refer to MMs BIO-1 through BIO-16 in Section 4.4(a) and 4.4(b), CUL-1 through CUL-3 in Sections 4.5(a) and 4.5(c), GEO-1 in Section 4.7(f), HAZ-1 in Section 4.9(b), NOI-1 in Section 4.13(a), TRA-1 in Section 4.17(a), and WF-1 through WF-3 in Section 4.20(b).

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5.0 INVENTORY OF MITIGATION MEASURES AND STANDARD CONDITION OF APPROVAL

BIOLOGICAL RESOURCES

BIO-1 To ensure proper avoidance of special-status plant species, prior to construction, and during the appropriate blooming periods for special-status plant species with the potential to occur within the Project site, a qualified botanist shall conduct a focused rare plant survey in areas with suitable habitat to determine presence or absence of special-status plant species. The surveys shall be floristic in nature (i.e., identifying special-status plant species to the taxonomic level necessary to determine rarity), and shall be inclusive of, at a minimum, the areas proposed for development. Documentation of surveys and findings shall be submitted to Orange County Public Works and the California Department of Fish and Wildlife (CDFW) for review.

If individual or populations of special-status plant species are found within the areas proposed for disturbance, measures to avoid and minimize impacts shall be recommended. The surveys and reporting shall follow the latest CDFW and/or California Native Plant Society guidelines.

Although not expected, if State- and/or federally-listed plant species are present and avoidance is infeasible, consultation with the CDFW and/or U.S. Fish and Wildlife Service (USFWS) would be required and an Incidental Take Permit(s) from the CDFW and/or USFWS shall be obtained prior to the commencement of maintenance activities.

BIO-2 A pre-construction clearance survey for special-status amphibian and reptile species shall be conducted 24-hours prior to installation of wildlife exclusion fencing (WEF), vegetation clearing, and/or initiation of ground disturbing activities. If any special-status amphibian or reptile species are found, the Project biologist shall relocate the animal(s) to appropriate habitat off-site. If a lapse in Project-related work of 15 days or longer occurs, another focused survey shall occur.

BIO-3 Prior to ground disturbing activities, the construction contractor shall install wildlife exclusion fencing (WEF) along the Project boundaries within suitable habitat prior to commencement of construction activities or staging of equipment, in order to prevent special status amphibian and reptile species individuals from entering the project area during construction activities:

- WEF shall be installed under the supervision of the qualified Project biologist;
- WEF shall consist of taught silt fencing supported by wooden stakes on the Project side only;
- WEF shall be buried a minimum of six (6) inches below ground and soil shall be compacted against the sides of the fence for its entire length to prevent special-status species from passing under the fence;
- WEF shall extend 12 to 18 inches above the ground;
- The construction contractor shall inspect the WEF daily, and WEF shall be maintained, and repaired where necessary, throughout construction to ensure

that it is functional and without defects, that the fencing material is taught, and that the bottom edge of the fencing material remains buried;
- The Project biologist shall periodically inspect the WEF to ensure it remains functional and appropriately maintained throughout construction; and
- If any special-status wildlife species are found within WEF, construction activities in the vicinity shall cease and the Project biologist shall be notified to relocate the wildlife to suitable habitat outside of the Project area. Only the approved Project biologist shall handle or relocate special-status wildlife.

BIO-4 Construction pipes, culverts, or similar structures that are stored in the Project area for one or more overnight periods shall be securely capped prior to storage or thoroughly inspected by the construction contractor and/or the Project biologist for special-status wildlife species or other animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way.

BIO-5 To prevent inadvertent entrapment of special-status wildlife species during construction, the construction contractor and/or Project biologist shall ensure excavated, steep-walled holes or trenches more than six inches deep are provided with one or more escape ramps constructed of earthen fill or wooden planks. Before such holes or trenches are filled, holes and trenches shall be thoroughly inspected for trapped animals by the construction contractor and/or Project biologist.

BIO-6 A qualified biologist shall conduct up to three on-site surveys (two to four weeks apart per the California Department of Fish and Wildlife's [CDFW] recommendation) prior to ground disturbance following CDFW methodology as outlined in Survey Considerations for *California Endangered Species Act (CESA) Candidate Bumble Bee Species Surveys* (CDFW 2023c) during the optimal activity period (i.e., April through August). Surveys shall occur during the day (at least one hour after sunrise and at least two hours before sunset, though ideally between 9:00 a.m. and 1:00 p.m.) on warm, but not hot, sunny days (65 degrees Fahrenheit to 90 degrees Fahrenheit), with low wind (less than eight miles per hour [mph]), but surveying during partially cloudy days or overcast conditions are permissible if the surveyors can still see their own shadow.

If Crotch bumble bees or potential Crotch bumble bees (since bumble bees can be difficult to identify in the field) are observed within the site, a plan to protect Crotch bumble bee nests and individuals shall be developed and implemented in consultation with the CDFW. The plan shall include, but not be limited to, the following measures:

- If no protected Crotch bumble bees are found during the multiple rounds of focused surveys, but the habitat assessment identified suitable nesting, foraging, or overwintering habitat within the Project site, a biological monitor shall be on-site during vegetation or ground-disturbing activities that take place during the optimal activity period (i.e., April through August);
- Specifications for construction timing and sequencing requirements (e.g., avoidance of raking, mowing, tilling, or other ground disturbance from September 1st until late March 31st to protect overwintering queen bumble bees);
- Establishment of appropriate no-disturbance buffers for bumble bee nest sites to avoid impacts to the bees and construction monitoring by a qualified biologist to ensure compliance if bumble bee nests are identified;

- Restrictions associated with construction practices, equipment, or materials that may harm bumble bees (e.g., avoidance of pesticides/herbicides, best management practices to minimize the spread of invasive plant species);
- Provisions to avoid Crotch bumble bee or potential Crotch bumble bees if observed away from a bumble bee nest during Project activity (e.g., ceasing of Project activities until the animal has left the active work area on its own volition); and
- Prescription of an appropriate restoration seed mix targeted for the Crotch bumble bee, including native plant species known to be visited by native bumble bee species and containing a mix of flowering plant species with continual floral availability through the entire active season of the Crotch bumble bee (March 1st through September 30th).

BIO-7 Vegetation removal shall occur outside of the coastal California gnatcatcher/migratory bird nesting season (February 1st to September 31st); however, in the event vegetation removal is required during the nesting season, a pre-construction nesting bird survey shall be conducted within three days prior to vegetation removal.

In accordance with the Migratory Bird Treaty Act, a minimum 300-foot no-disturbance buffer shall be established around any active nest of migratory birds and a minimum 500-foot no-disturbance buffer shall be established around any nesting raptor or California Endangered Species Act/Federal Endangered Species Act listed species. The construction contractor shall immediately stop work in the buffer area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the Project biologist and in consultation with wildlife agencies) in the buffer area until a qualified biologist determines the young have fledged. A reduced buffer can be established if determined appropriate by the Project biologist and approved by wildlife agencies. The Project biologist shall monitor any known identified nest site(s) within or adjacent to the Project site and identified buffers, in coordination with and approved by the appropriate wildlife agencies.

BIO-8 During clearing or construction activities, no grading of chamise – sage chaparral habitat that is occupied by nesting coastal California gnatcatcher (*Polioptila californica californica*) shall occur during the breeding season (February 1st through September 31st). It is expressly understood that this provision and the remaining provisions of these "construction-related minimization measures" are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures, and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities shall provide the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) with the maximum practicable notice (or such notice as is specified in the Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) to allow for capture the capture of coastal California gnatcatcher, cactus wrens (*Campylorhynchus brunneicapillus sandiegensis*), and any other chamise – sage chaparral Identified Species that are not otherwise flushed and shall carry out the following measures only to the extent practicable in the context of the public health and safety considerations. The breeding season is now considered to be from February 1st through September 31st; therefore, these dates are applicable to this measure.

Prior to the commencement of grading activities or other activities involving substantial soil disturbance, areas of chamise – sage chaparral habitat to be avoided under the provisions of the NCCP/HCP shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading activities or other activities involving disturbance of chamise – sage chaparral, a survey shall be conducted to locate coastal California gnatcatcher and cactus wrens within 100 feet of the outer extent of projected soil disturbance activities. The locations of any such species shall be clearly marked and identified on the construction/grading plans.

A monitoring biologist acceptable to the USFWS/CDFW shall be on-site during any clearing of chamise – sage chaparral. The landowner or relevant public agency/utility shall advise the USFWS/CDFW at least seven calendar days (preferably 14 calendar days) prior to the clearing of any habitat occupied by Identified Species to allow the USFWS/CDFW to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist shall flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they shall be captured in mist nets, if feasible, and relocated to areas of the Project site to be protected or to the NCCP/HCP Reserve System. It shall be the responsibility of the monitoring biologist to ensure that Identified Species shall not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.

Following the completion of initial grading/earth movement activities, areas of chamise – sage chaparral habitat to be avoided by construction equipment and personnel shall be marked with temporary fencing or other appropriate markers clearly visible to construction personnel. No construction access, parking, or storage of equipment or materials shall be permitted within such marked areas.

In areas bordering the NCCP/HCP Reserve System or Special Linkage/Special Management areas containing substantial chamise – sage chaparral identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations shall be restricted to a minimum number during construction consistent with Project construction requirements. Waste dirt or rubble shall not be deposited on adjacent chamise – sage chaparral identified in the NCCP/HCP for protection. Pre-construction meetings involving the monitoring biologist, construction supervisors, and equipment operators shall be conducted and documented to ensure maximum practicable adherence to these measures.

Chamise – sage chaparral identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.

BIO-9 Prior to ground disturbing activities, the Project limits in the vicinity of Santiago Creek and associated riparian areas and natural vegetation communities along Modjeska Grade Road shall be marked with high visibility Environmentally Sensitive Area (ESA) fencing or staking to ensure construction activities shall not further encroach into those habitats. The fencing shall be installed under the supervision of the Project biologist (construction contractor- or County of Orange-supplied) and shall be

inspected by the Project biologist at a minimum of once a month. If maintenance is required, the Project biologist shall provide instruction to the construction contractor.

BIO-10 Prior to ground disturbing activities, Project personnel shall attend a biological awareness training session delivered by the Project biologist. The biological awareness training shall include a description of special-status species and sensitive habitats, species identification characteristics, best management practices to be implemented, Project-specific avoidance measures that must be followed, and the steps necessary if special-status species are encountered during Project-related activities.

BIO-11 Contract specifications shall include the following best management practices (BMPs), where applicable, to reduce erosion during construction activities:

- Implementation of the Project shall require approval of a site-specific Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Program (WPCP) that shall implement effective measures to protect water quality, which may include a hazardous spill prevention plan and additional erosion prevention techniques;
- Existing vegetation shall be protected in place to provide an effective form of erosion and sediment control;
- Roughening and terracing shall be implemented to create unevenness on bare soil through the construction of furrows running across a slope, creation of stair steps, or by utilization of construction equipment to track the soil surface. Surface roughening or terracing reduces erosion potential by decreasing runoff velocities, trapping sediment, and increasing infiltration of water into the soil, and aiding in the establishment of vegetative cover from seed;
- Soil exposure must be minimized through the use of temporary BMPs, groundcover, and stabilization measures; and
- The contractor must conduct periodic maintenance of erosion and sediment-control measures.

BIO-12 To minimize the potential for water quality pollutants to affect sensitive natural communities, the Project shall implement the following:

- Vehicle maintenance, staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants must be a minimum of 50 feet from surface waters. Any necessary equipment washing must occur where the water cannot flow into surface waters. The Project specifications shall require the contractor to operate under an approved spill prevention and clean-up plan;
- Construction equipment shall not be operated in flowing water;
- Construction activities must be conducted according to site-specific construction plans that minimize the potential for sediment input to surface waters;
- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering surface waters;
- Equipment used in and around surface waters must be in good working order and free of dripping or leaking contaminants; and
- Any concrete rubble, asphalt, or other debris generated from construction activities must be taken to an approved disposal site.

BIO-13 Riparian vegetation within temporary construction zones shall be trimmed or cleanly cut to ground level and then covered with a layer of clean gravel or topsoil as necessary to protect plant viability and prevent damage to remaining root structures during construction.

BIO-14 The Project biologist shall monitor construction within the vicinity of riparian habitats, riverine habitats and sensitive habitats of concern to ensure that vegetation removal, best management practices, environmentally sensitive areas, and all avoidance, minimization, and mitigation measures are properly constructed and followed. In the event vegetation removal, best management practices, environmentally sensitive areas, and avoidance, minimization, and mitigation measures are not properly constructed and followed, the construction contractor shall immediately stop work within the vicinity of riparian habitats, riverine habitats and sensitive habitats of concern until the Project biologist determines compliance with the best management practices, environmentally sensitive areas, and avoidance, minimization, and mitigation measures.

BIO-15 Temporary impacts to jurisdictional waters, riparian woodland and arroyo toad (*Anaxyrus californicus*) critical habitat during Project construction shall be avoided and minimized to the greatest extent feasible. Mitigation for unavoidable temporary impacts shall be prescribed in a Habitat Mitigation and Monitoring Plan that identifies the approach to habitat restoration and/or enhancement and subsequent monitoring and maintenance of the site to restore the functions and values of the impacted habitat. The Habitat Mitigation and Monitoring Plan shall include the following:

- *Responsibilities and qualifications of the personnel to implement and supervise the plan*. The responsibilities of OC Public Works that would supervise and implement the plan will be specified.
- *Baseline Information*. Site conditions shall be documented for both the Project's impact areas as well as the locations identified for restoration in the design plans.
- *Site preparation and planting implementation*. Site preparation may include: (1) protection of existing native species; (2) trash and weed removal; (3) native species salvage and reuse (i.e., duff); (4) soil treatments (i.e., imprinting, decompacting); (5) temporary irrigation installation (if required); (6) erosion control measures (i.e., rice or willow wattles); (7) seed mix application; and (8) container species planting.
- *Schedule*. A schedule shall be developed which includes planting in late fall and early winter (between October 1 and January 30) or dictated by the regulatory agencies.
- *Maintenance Plan/Guidelines*. The Maintenance Plan shall include: (1) weed control; (2) herbivory control; (3) trash removal; (4) irrigation system maintenance, if required; (5) maintenance training; and (6) replacement planting.
- *Monitoring Plan*. The Monitoring Plan shall be described to include: (1) qualitative monitoring (i.e., photographs and general observations); (2) quantitative monitoring (i.e., randomly placed transects); (3) performance criteria, as approved by the resource agencies; (4) monthly reports for the first year and reports every other month thereafter; and (5) annual reports, which shall be submitted to the resource agencies on a yearly basis, for five years.

- *Adaptive Management Plan*. General procedures for adaptive management shall be outlined based on known challenges within the area (i.e., drought stress, invasive pest mitigation). Following quantitative site assessments, patterns and trends related to site development shall be reviewed and recommendations shall be made to correct any issues identified.
- *Long-term Management*. Long-term management of the site shall be outlined in the Habitat Mitigation and Monitoring Plan to ensure the mitigation site is not impacted by future development.

Alternatively, mitigation shall be achieved by payment of an in-lieu fee to an agency approved mitigation bank, or restoration and/or enhancement of similar habitats at off-site locations determined by Orange County Public Works. The Habitat Mitigation and Monitoring Plan and approach to mitigating temporary impacts shall be coordinated with the regulatory agencies (i.e., the California Department of Fish and Wildlife, Regional Water Quality Control Board, and U.S. Fish and Wildlife Service) and require approval prior to Project implementation.

BIO-16 Prior to Project construction activities, the mature native trees located throughout the Project site (i.e., coast live oak, California sycamore, and southern California black walnut) along Modjeska Grade Road shall be marked with tree trunk and limb protection wrap and signage to ensure construction activities do not encroach into the mature native trees. The tree trunk and limb protection wrap shall be installed under the supervision of a certified arborist and shall be composed of double sided geocomposite, geonet core with non-woven covering (e.g., Tenax Tendrain 770/2) or equivalent material. The tree trunk and limb protection wrap shall completely cover the tree, extending from the base of the tree (i.e., bottom of the trunk/root flare) to at least 10 feet in height or to the first tree limb. Tree protection signage shall be attached directly to the tree trunk and limb protection wrap (i.e., to avoid contact with the tree trunk) or affixed to sign posts installed adjacent to such trees. Tree trunk and limb protection wrap and signage shall be removed upon completion of Project-related activities.

BIO-17 If on-site trees cannot be preserved during construction, Orange County Public Works, or their designee, shall replant/transplant any mature native trees removed from the Project site, including within natural communities of special concern within the Santa Ana River watershed. Specifically, within the Foothill/Trabuco Specific Plan area, any oak tree exceeding five inches in diameter at 4.5 feet above the existing grade, removed in accordance with an approved Tree Management/Preservation Plan, shall be transplanted. Any oak tree over five inches in diameter that is in poor health and would not survive transplantation (as certified by an arborist), shall be replaced with a minimum 15-gallon tree in accordance with the Foothill/Trabuco Specific Plan. Additionally, any sycamore tree exceeding 35-inches in diameter shall be preserved, transplanted, or replaced by an identical species of equal or greater size. Sycamore trees less than 35-inches in diameter shall be replaced in accordance with the Foothill/Trabuco Specific Plan. In the event all replacement trees cannot be accommodated on the Project site, an off-site mitigation program may be permitted; however, all replacement trees shall be located within the Foothill/Trabuco Specific Plan area. Lastly, any species of tree (other than oak or sycamore trees) shall be transplanted or replaced with a minimum 15-gallon tree at a replacement ratio of 1:1.

CULTURAL RESOURCES

CUL-1 Prior to construction, a qualified archaeologist shall conduct a pre-grading meeting with contractors to provide cultural resources sensitivity training for all construction personnel. The training shall describe the type of resources that may be identified, procedures to be followed during ground disturbance, and protocols that apply in the event that unanticipated resources are discovered. Only construction personnel who have received this training can conduct ground disturbing activities. The crew shall be cautioned not to collect artifacts, and directed to inform a construction supervisor and the on-site archaeological monitor in the event that cultural remains are discovered during the course of construction, including if a cultural resources monitor is not present. A qualified archaeologist is someone who either meets the Secretary of the Interior's Professional Qualification Standards for archaeology (48 Federal Register 44738) and is a Registered Professional Archaeologist or has a Bachelor of Arts in archaeology or a closely related field and is a Registered Archaeologist.

CUL-2 In the event that any cultural resources are encountered during earthmoving activities, it is recommended that all work within 50 feet of the find be halted until a qualified archaeologist can evaluate the findings and make recommendations. Prehistoric materials can include flaked-stone tools (e.g., projectile points, knives, choppers) or obsidian, chert, or quartzite toolmaking debris; culturally darkened soil (i.e., midden soil often containing heat-affected rock, ash, and charcoal, shellfish remains, and cultural materials); and stone milling equipment (e.g., mortars, pestles, handstones). Historical materials might include wood, stone, or concrete footings, walls, and other structural remains; debris-filled wells or privies; and deposits of wood, metal, glass, ceramics, and other refuse. The archaeologist may evaluate the find in accordance with federal, State, and local guidelines, including those set forth in the California Public Resources Code Section 21083.2, to assess the significance of the find and identify avoidance or other measures as appropriate. If suspected prehistoric or historical archaeological deposits are discovered during construction, all work within the immediate area of the discovery shall be redirected and the find must be evaluated for significance by a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983).

CUL-3 In the event human remains are found during the project construction phase, those remains shall receive proper treatment in accordance with applicable laws. State of California Public Resources Health and Safety Code Section 7050.5 through 7055 describe the general provisions for human remains. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are accidentally discovered during excavation of a site. As required by State law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code shall be implemented, including notification of the County of Orange Coroner, notification of the Native American Heritage Commission, and consultation with the individual identified by the Native American Heritage Commission to be the most likely descendant. If human remains are found during excavation, excavation shall stop near the find and any area that is reasonably suspected to overlay adjacent remains until the County of Orange Coroner has been notified, the remains have been investigated, and appropriate recommendations have been made for the treatment and disposition of the remains.

GEOLOGY AND SOILS

GEO-1 The Orange County Public Works (OC Public Works) shall retain a Society of Vertebrate (SVP) Paleontology-qualified paleontologist to provide or supervise a paleontological sensitivity training to all personnel planned to be involved with earth-moving activities, prior to grading or excavation in sedimentary rock material other than topsoil. The training session shall focus on how to identify paleontological resources, such as fossils that may be encountered, and the procedures to follow if identified.

A qualified professional paleontologist is a professional with a graduate degree in paleontology, geology, or related field, with demonstrated experience in the vertebrate, invertebrate, or botanical paleontology of California, as well as at least one year of full-time professional experience or equivalent specialized training in paleontological research (i.e., the identification of fossil deposits, application of paleontological field and laboratory procedures and techniques, and curation of fossil specimens), and at least four months of supervised field and analytic experience in general North American paleontology.

Prior to grading or excavation in sedimentary rock material other than topsoil, OC Public Works shall retain an SVP-qualified paleontologist to monitor or supervise the monitoring of these activities. In the event that paleontological resources are encountered during earth-disturbing activities, the paleontological monitor, in discussion with the SVP-qualified paleontologist, shall notify the on-site construction supervisor, who shall redirect construction activities within 50 feet of the discovery. The qualified paleontologist shall evaluate the find. If the qualified paleontologist finds that the resource is not a significant fossil, then work may resume immediately. If the qualified paleontologist finds the resource is potentially significant, then the qualified paleontologist shall make recommendations for appropriate treatment in accordance with Society for Vertebrate Paleontology guidelines for identification, evaluation, disclosure, avoidance, recovery, and/or curation, as appropriate.

If the fossils are determined to be significant, then the SVP-qualified paleontologist shall prepare and implement a data recovery plan. The plan shall include, but not be limited to, the following measures:

- The paleontologist shall ensure that all significant fossils collected are cleaned, identified, catalogued, and permanently curated with an appropriate institution with a research interest in the materials (which may include the County of Orange Paleontology and Archaeology Collections);
- The paleontologist shall ensure that specialty studies are completed, as appropriate, for any significant fossil collected; and
- The paleontologist shall ensure that curation of fossils is completed in consultation with the OC Public Works. A letter of acceptance from the curation institution shall be submitted to the OC Public Works.

HAZARDS AND HAZARDOUS MATERIALS

HAZ-1 During final design, the Orange County Public Works shall ensure that a certified consultant shall conduct lead-based paint surveys of pavement materials that will be demolished as part of the proposed Project. If pavement materials are determined to

contain lead, these materials shall be handled and disposed of in accordance with existing State regulations.

NOISE

NOI-1 Prior to the issuance of a grading permit, the construction contractor shall demonstrate to the Orange County Public Works (OC Public Works), or its designee, that the Project complies with the following:

- Final design specifications shall specify that all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other State-required noise attenuation devices;
- During construction, a sign, legible at a distance of 50 feet, shall be posted at the Project construction site providing a contact name and a telephone number where residents can inquire about the construction process and register complaints. This sign shall indicate the dates and duration of construction activities. In conjunction with this required posting, a noise disturbance coordinator shall be identified to address construction noise concerns received. The coordinator shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the disturbance coordinator shall notify the County within 24 hours of the complaint and determine the cause of the noise complaint (such as, construction activities occurring between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday in violation of the County Code of Ordinances Section 4-6-7, *Special provisions*, or a malfunctioning muffler) and shall implement reasonable measures to resolve the complaint, as deemed acceptable by the County;
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers;
- Construction haul routes shall be designed to avoid noise sensitive uses (e.g., residences), to the extent feasible; and
- Construction activities shall not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday pursuant to the Codified Ordinances of the County of Orange Section 4-6-7.

During Project construction, OC Public Works shall be the responsible party to ensure that the construction contractor complies with the aforementioned measures.

TRANSPORTATION

TRA-1 Prior to issuance of a grading permit, the Project Orange County Public Works shall prepare a Traffic Management Plan (TMP). The TMP shall include measures such as construction signage, noticing of closures along Modjeska Grade Road and alternative routes, limitations on timing for lane closures to avoid peak hours, temporary striping plans, and the need for a construction flagperson to direct traffic during heavy equipment use. The TMP shall specify that one direction of travel in each direction must always be maintained along Modjeska Grade Road and East Santiago Canyon Road throughout Project construction. Bicycle lanes within Project limits shall remain open and accessible, to the greatest extent feasible, during construction or shall be re-

routed to ensure continued connectivity. The TMP shall be incorporated into Project specifications for verification prior to final plan approval.

TRIBAL CULTURAL RESOURCES

SC-TCR-1: Unanticipated Discovery of Archaeological Resources. If unanticipated archaeological resources or deposits are discovered during ground disturbing activities, Orange County Public Works (OC Public Works) shall implement the following measures. All work shall halt within a 50-foot radius of the discovery. OC Public Works shall retain a qualified professional archaeologist with knowledge of Native American resources to assess the significance of the find. If the resources are Native American in origin, OC Public Works shall coordinate with the Tribe regarding evaluation, treatment, curation, and preservation of these resources. The archaeologist shall have the authority to modify the no-work radius as appropriate, using professional judgment in consultation with OC Public Works. Work shall not continue within the no-work radius until the archaeologist conducts sufficient research and evidence and data collection to establish that the resource is either: (1) not cultural in origin; or (2) not potentially eligible for listing on the California Register of Historical Resources. If a potentially eligible resource is encountered, then the archaeologist and OC Public Works, as lead agency, in consultation with the Tribe, shall arrange for either: (1) avoidance of the resource, if possible; or (2) test excavations to evaluate eligibility, and if eligible, attempt to resolve adverse effects through implementation of appropriate mitigation, which may include, but shall not be limited to, salvage excavation, laboratory analysis and processing, research, curation, and preparation of a report summarizing the find. The assessment of eligibility shall be formally documented in writing as verification that the provisions in the California Environmental Quality Act for managing unanticipated discoveries and Public Resources Code Section 5024 have been met.

WILDFIRE

WF-1 In the event a red flag warning is issued by the National Weather Service (NWS), all construction activities involving hot work, defined as work involving electric or gas welding, cutting, brazing, or similar flame or spark-producing operations, shall cease until the NWS lifts the red flag warning, and the construction contractor indicates construction activities involving hot work can continue as normal.

WF-2 Prior to issuance of a grading permit, the Project contractor in coordination with Orange County Public Works shall prepare an Emergency and Construction Fire Prevention Plan for approval by the Orange County Fire Authority Fire Chief, or their designee, and the Orange County Sheriffs Department. The Emergency and Construction Fire Prevention Plan shall include, but not be limited to, measures such as a detailed schedule of construction activities, after-work hours emergency contact information, fire safety measures in compliance with the National Fire Protection Association Standard 51B and California Public Resources Code Section 4442, and emergency operational procedure in the event of a wildland fire, structural fire, red flag day, emergency involving emergency medical services (EMS), loss of power, and flood emergencies.

WF-3 At least two weeks prior to the commencement of construction activities, the Project contractor shall post the following: 1) Information regarding Orange County Fire

Authority's "Ready, Set, Go!" safety program; 2) An emergency evacuation route map for the immediate area/vicinity; and 3) The direct phone number of Orange County Fire Authority Fire Stations 16 and 42, on the community bulletin board located at 28890 Modjeska Canyon Road, Silverado, California 92676. This information shall also be provided via mail to nearby residents of Modjeska Canyon affected by the proposed Project.

6.0 LEAD AGENCY DETERMINATION

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 EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required. ☐

Signature: _____

Title: Senior Planner

Printed Name: Virginia Gomez

Agency: OC Public Works

Date: 7/29/2024

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