VEN-1 Permanent Slope Restoration Project

VENTURA COUNTY, CALIFORNIA
DISTRICT 7 – VEN-1 (PM 4.0/4.2)
318200/0715000286

Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment

Prepared by the State of California, Department of Transportation

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

October 2018
VEN – 01 Permanent Slope Restoration Project in the County of Ventura (Post Mile 4.0 to Post Mile 4.2)

INITIAL STUDY WITH PROPOSED MITIGATED NEGATIVE DECLARATION/ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to State Division 13, California Public Resources Code Federal 42 USC 4332(2)(C), 49 USC 303, and/or 23 USC 138

THE STATE OF CALIFORNIA
Department of Transportation
Lead Agency

Cooperating Agencies: United States Army Corps of Engineers
Responsible Agencies: California Coastal Commission,
California State Water Resources Control Board

Oct 19, 2018
Date of Approval

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PROPOSED MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) District 7 proposes to construct two secant walls at post mile (PM) 4.0 and PM 4.2 on Pacific Coast Highway (State Route 1) in Ventura County to serve as a permanent stabilization of the slope and corresponding roadway from wave induced slope erosion.

Determination

This proposed Negative Declaration (ND) is included to give notice to interested agencies and the public that it is Caltrans’ intent to adopt an ND for this project. This does not mean that Caltrans’ decision regarding the project is final. This ND is subject to change based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project, and pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The proposed project would have no effect on community character and cohesion, relocations and real property acquisition, environmental justice, farmlands/timberlands, growth, paleontology, noise, and wild and scenic rivers.

In addition, the proposed project would have less than significant effects to land use, coastal zone, parks and recreational facilities, utilities, traffic and transportation/pedestrian and bicycle facilities, visual/aesthetics, cultural resources, hydrology and floodplain, water quality and storm water runoff, geology and soils, hazardous waste/materials, and air quality.

With the following mitigation measures incorporated, the proposed project would have less than significant effects related to biological resources: BIO-14 and BIO-15.

________________________________   ______________________
Ron Kosinski       Date
Deputy District Director
District 7
California Department of Transportation
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Chapter 1: Proposed Project

1.1 Introduction
The California Department of Transportation (Caltrans), proposes to construct 2 secant walls\(^1\) on the southbound/coastal side of State Route (SR) 1, also known as Pacific Coast Highway (PCH), in Ventura County at post mile 4.0 and 4.2 to prevent coastal erosion and stabilize the roadway foundation. The proposed project is subject to both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act of 1969 (NEPA). Caltrans is the lead agency under CEQA and NEPA.

PCH is a major north-south thoroughfare that runs along the Pacific Coast originating near the town of Leggett in Mendocino County and extends on and off, to the City of Dana Point in Orange County. The highway is highly scenic because it runs adjacent to the coast with both coastal and mountain views. In an effort to conserve the beauty and scenic views of the PCH, parts of the highway have been designated as an All-American Road or protected under the National Scenic Byways Program. PCH at the location of the proposed project, is an Eligible State Scenic Highway; however, Ventura County has not sought designation. Nevertheless the 2 to 3 lane highway through the project area, offers scenic views of the Santa Monica Mountains to the east and the Pacific Ocean to the west within unincorporated Ventura County. The project area is fairly remote with the closest city being Oxnard located about 14 miles to the north and Malibu located about 15 miles to the south. Figure 1-1 shows the project location and general vicinity.

\(^{1}\) A secant wall is a structural wall formed by constructing intersecting reinforced concrete piles (see Figure 1-17).
1.1.1 History of Project Area
The project study area has historically been susceptible to erosion as a result of high surf caused by successive storms that have passed through the region. At PM 4.2, the fill embankment was severely eroded during Hurricane Marie in August 27-28, 2014 which included the loss of a lifeguard structure on the southeasterly end of the beach. The high tide produced by the storm can be seen in the aerial photo in Figure 1-2. Conditions worsened at PM 4.2 during the storms of December 2014. On January 14, 2015 at PM 4.0, a major storm caused portions of the unprotected and eroded fill embankment to collapse leaving the guardrail hanging off the cliff and traveling motorists on the highway unprotected (Figure 1-3 and Figure 1-4). Slope erosion at PM 4.2 shown in Figure 1-7.

To stabilize the slope and embankment at both locations, under Director’s Order (0715000159) Caltrans constructed a project from February 2, 2015 through March 3, 2015 (EA 4X370) to reinforce and stabilize the slope at both PM 4.0 and PM 4.2. The project utilized a crane to place 8-ton rocks at the waterline on the toe of the slope at PM 4.0 for a height of about 20 feet, and place 4-6 ton rocks for approximately a height of two-thirds from the waterline with fabric for a length of about 400 feet (Figure 1-5 and Figure 1-6). Reinforced fill was put in for the last 20 feet of the length. At PM 4.2, the dirt fill slope was replaced in-kind, without rock slope protection (Figure 1-8). However, high surf continued to erode the slope, and eventually State of California Department of Parks and Recreation located about 300 feet away, had to cordon off beach area due to the instability of the slope (Figure 1-9). Therefore, later that year in November 2015 under Director’s Order (0716000099), Caltrans implemented (EA 4X760) a 4-ton rock slope protection wall at the toe of the slope for 75 feet (Figure 1-10).
Figure 1-3: Fill slope eroded at PM 4.0 with guardrail hanging.

Figure 1-4: Guardrail at PM 4.0 shown hanging off the roadway due to severe slope erosion. Photo taken on 01/14/2015.

Figure 1-5: Construction of 8-ton boulder placement onto the fill slope at PM 4.0. Photo taken on 02/02/2015.

Figure 1-6: Crane placing 8-ton boulder at the toe of the slope at PM 4.0. Photo time stamped on 02/02/2015.
Figure 1-7: Slope erosion at PM 4.2 after Hurricane Marie in August 2014 and additional storms in December 2014. Photo taken on 01/29/2015.

Figure 1-8: Fill slope at PM 4.2 was repaired in-kind without rock slope protection at the toe of the slope. Photo taken on 03/02/2015.

Figure 1-9: High surf causes the fill slope to erode months after reconstruction. Photo taken on 09/30/2015.

Figure 1-10: Rock slope protection is constructed at the toe of the slope after high surf causes the fill slope to erode. Photo taken on 12/17/2015.
Caltrans Geologists conducted field reviews of the proposed project area in July 2015 to assess the condition of the stabilized slopes following construction of Director’s Order (0715000159). The field reviews concluded that wave erosion can be temporarily minimized by the constructed slope protection, however major storms will continue eroding the big rocks, slope, and ultimately the highway, unless a permanent solution is implemented. The slope condition at PM 4.2 in October 2017 is shown in Figure 1-11, with obvious slope erosion. The slope has eroded to meet the rock slope protection wall that was constructed at the toe of the slope in late 2015 (shown newly constructed in Figure 1-10). The slope condition worsens in March 2018 at PM 4.2, as shown in Figure 1-12. The slope condition at PM 4.0 is shown from the perspective of the roadway in Figure 1-13 (photo taken in March 2018) and in Figure 1-14 as a panoramic view (photo taken in January 2018).

Figure 1-11: Slope on PM 4.2 in October 2017. Slope has eroded to meet the rock slope protection wall at the toe of the slope.

Figure 1-12: Slope at PM 4.2 showing erosion failure. Photo taken on March 15, 2018.
1.1.2 Northbound Shoulder of PCH

Caltrans Geologists identified rock scaling of the slope at 5 locations along PCH. As a temporary measure to prevent loosened rocks from impacting drivers on the roadway, about 6 feet of rock fence protection was installed on top of k-rail\(^2\) along the shoulder of these identified 5 locations along PCH in January.

\(^2\) K-rail, also known as a Jersey barrier, is used to separate lanes of traffic or block shoulder access to vehicles with a modular concrete or plastic barrier.
2011. Then on May 2, 2013 the Camarillo Springs wildfire started along US-101 in the Camarillo area. The intense blaze scorched through coastal wilderness and encompassed canyons towards inland neighborhoods. The wildfire burned about 28,000 acres including damage to 15 homes and causing evacuations of 4,000 homes and California State University Channel Islands. The wildfire put PCH in threat of becoming bombarded by post-fire rock fall and debris that could potentially harm traveling motorists. Therefore k-rail was installed from PM 2.6 to 10.2 on the northbound shoulder of PCH to prevent debris from entering the roadway after rain events. Some portions of PM 2.6 to 10.2, such as this proposed project area, already had rock fence protection on top of the k-rail deployed from 2011 (Figure 1-15). Installation of k-rail throughout PM 2.6 to 10.2 was completed on May 4, 2014 (EA 4X060). The Ventura County Planning Division issued a Zoning Clearance for this work, under the contingency that Caltrans would eventually remove the k-rail and rock fence.

The k-rail and rock fence is still deployed on the northbound shoulder of PCH through the project area. Coordination between Caltrans Traffic and regulatory agencies will be necessary to determine if it is feasible to open the shoulder to public access through PM 4.0 to PM 4.2, after construction is completed. Caltrans will need to seek a Coastal Development Permit (CDP) from regulatory agencies if the deployed k-rail and fencing is to be permanently incorporated. Figure 1-16 and Figure 1-17 depicts the current condition of the k-rail and fencing within the project area.

Figure 1-15: Access on the shoulder of northbound PCH through the project area is blocked with K-rail and metal fencing.
The proposed project is programmed in the 2019/2020 State Highway Operation and Protection Program (SHOPP) and is eligible for federal-aid funding as shown in the 2017 Federal Transportation Improvement Program (FTIP) (ID VENLS10).

1.2 Purpose and Need

The purpose of this project is to perform permanent restoration of damage incurred by severe storm events in August 2014 through January 2015 within the project limits. This project is intended to alleviate future slope undermining due to severe erosion and possible failure of the roadway itself.

The project is needed because there has been accelerated structural undermining of the slope due to severe surf erosion which has resulted in cracks and displacements of the roadway shoulder. The project area is prone to erosion and needs adequate slope protection.

1.2.1 Independent Utility and Logical Termini

Federal Highway Administration (FHWA) regulations (23 Code of Federal Regulations [CFR 771.111(f)]) require that proposed projects have logical end limits and be of sufficient length to address environmental matters on a broad scope. The regulations also require for projects to have independent utility or independent significance, in that construction of the project be usable and a reasonable use of funds even if no additional transportation improvements in the area are made. Furthermore, it stipulates that approval of the proposed project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The proposed project is a stand-alone project intended to restore slope stability along the stretch of PCH that has endured severe erosion in unincorporated Ventura County. The project’s north and south terminus was selected based on the extent of slope damage caused by tidal surges from storm events. Proposing rock slope stabilization for a portion of PCH that was not afflicted by storm damage would be unnecessary and an inappropriate use of public funds. The proposed project is not dependent on the
completion of another Caltrans project and does not restrict the consideration of alternatives for other reasonably foreseeable transportation improvements. Therefore, pursuant to 23 CFR 771.11(f), this project has independent utility and logical termini.

1.3 Project Description

This section describes the proposed action and design alternatives that were developed by a multidisciplinary team to achieve the identified purpose and need of the project while avoiding or minimizing environmental impacts. The alternatives are Alternative 1 – Cantilever Option, Alternative 2 – Ground Anchor Option, and Alternative 3 – No Build Alternative.

The two build alternatives are Alternative 1 – Cantilever Option and Alternative 2 – Ground Anchor Option. Both alternatives propose construction of secant walls as a permanent solution to stabilize the slope and the corresponding roadway. The slope has undergone extensive erosion due to powerful storms. The first recent storm that greatly compromised the stability of the roadway and left the slope fill embankment severely eroded, occurred in August 2014 and worsened through December 2014 at PM 4.2. Additional storms in January 2015 caused the eroded fill embankment at PM 4.0 to collapse which proved so severe that the guardrail was left hanging from the roadway. Rock slope protection was temporarily placed at these locations in 2015 to minimize damage from future storms. However, Caltrans Geologists have concluded that these repairs are only a temporary solution to minimize erosion. Instead, a permanent improvement must be implemented to effectively stabilize the roadway for future years and the secant walls are intended to serve as a permanent stabilization of the slope and roadway.

The two build alternatives will be analyzed alongside Alternative 3 – No Build Alternative. The No Build Alternative proposes no action to be made within the project area. Current conditions would remain with the temporary measures deployed. No permanent modifications would be proposed.

1.4 Project Alternatives

1.4.1 Alternative 1 – Cantilever Option

Secant Walls Construction and Guardrail Replacement

Alternative 1 proposes to construct 2 secant walls on the southbound/coastal side of PCH at post mile 4.0 and 4.2. The secant wall at post mile 4.0 is proposed at about 100 feet high and 600 feet long, stretching from PM 3.944 to 4.06. The second secant wall at post mile 4.2 is proposed at about 100 feet high and 200 feet long, stretching from PM 4.16 to PM 4.19. Both walls will be completely underground, thereby the walls will be about 100 feet underground along the roadway.

The walls will be constructed through closely spaced 60” [inches] cast-in-drilled-hole piles (CIDH) that include both reinforced secondary and unreinforced primary piles. The secondary piles typically overlap the primary piles, with the primary piles essentially acting as concrete lagging (see Figure 1-18). The reinforcement cages are then inserted in the holes and concrete is poured to complete the pile. If ground water is encountered within the pile hole, special methods are utilized to pour concrete under water. Primary and secondary piles are drilled staggered, drilling alternate piles in position and then drilling the piles in between. In the final configuration, there is no gap between the piles.
Alternative 1 – Cantilever Option involves drilling the holes for the piles of the wall from the shoulder of the roadway without any slope excavation (see Figure 1-19). The soil excavated during drilling is stock piled, properly covered to avoid airborne particles and disposed of. Minor excavation for about 20 inches or so will also be involved to place a concrete barrier on top of the piles. The metal beam guardrail will be removed for construction and replaced with Midwest Guardrail System after the secant walls are constructed.

**Shoulder Paving**

The northbound shoulder of PCH is unpaved and blocked from access to motorists with K-rail and 8-foot metal fencing. K-rail and fencing was emplaced to exclude shoulder access under a temporary CDP to avoid unstable rock fall on the roadway and motorists. Construction was completed on May 4, 2014 but the shoulder continues to be unpaved and blocked from access. For use as traffic management during project construction, the shoulder along northbound PCH would be paved. Coordination between Caltrans Traffic and regulatory agencies will be needed to determine if the shoulder would be reopened for public access after project construction.
Power poles located on the roadway throughout the project area will be relocated for the project. All construction work will occur within the roadway and shoulder. Temporary construction easement of 0.244 acre will be required from State Parks for construction access and staging. The estimated cost for the secant walls for Alternative 1 is: $17,619,000 at PM 4.0 and $6,106,000 at PM 4.2. Construction is expected to last 1 year.

1.4.2 Alternative 2 – Ground Anchor Option
Secant Walls Construction and Guardrail Replacement
Similar to Alternative 1, Alternative 2 – Ground Anchor Option proposes to construct 2 secant walls on the southbound/coastal side of PCH at post mile 4.0 and 4.2. The location of the secant walls is also the same as Alternative 1 with an about 100 foot high secant wall proposed at 600 feet long at PM 4.0 stretching from PM 3.944 to 4.06. The second secant wall at post mile 4.2 is proposed at about 100 feet high and 200 feet long, stretching from PM 4.16 to PM 4.19. Both walls will be completely underground, therefore the walls will be about 100 feet underground from the roadway.

The secant walls will be constructed by 42” CIDH piles that include both reinforced secondary and unreinforced primary piles. The secondary piles typically overlap the primary piles, with reinforcement cages inserted into the holes and concrete poured to complete the pile, as shown in Figure 1-18 and described in Section 1.4.1 Alternative 1 – Cantilever Option. The walls will be further stabilized with anchors running perpendicular to the vertical piles, see Figure 1-20. The vertical concrete piles will be constructed by drilling in the shoulder just outside the metal beam guardrail. An auger drill will be placed on the roadway to construct the CIDH piles. The metal beam guardrail will be removed for construction and replaced with Midwest Guardrail System after the secant walls are constructed.

![Figure 1-20: Schematic drawing of Alternative 2 – Ground Anchor Option.](image)

The anchors are designed to reinforce the piles of the wall. The ground anchors are installed laterally in the wall a few feet below the top of the piles, about 4 feet below ground surface. To install the anchors an access road along the slope will be needed. The drilling machines use this area as a platform to drill laterally. Small holes are drilled laterally into the wall, steel strands wound in the form of cables as anchors are inserted in these holes, stressed against the walls to pre-determined values and capped.
against the walls. The space around the anchors is then grouted. The slopes are then restored to their original condition. Because of the anchors, the size of the piles is reduced considerably.

In order to install the anchors, the face of the slope will need to be excavated, as shown in Figure 1. The face of the slope must be exposed in order for machinery to attach the anchors onto the concrete piles. Therefore, the top 4 feet deep of dirt must be removed from the face of slope. Within the roadway, excavation for the width of 24 feet is needed for the entire length of the wall (shown as “24’-0” Min Temp Const Zone” in Figure 1-20). The ground anchors will be installed from the side of the hill which requires dirt removal to grant access to the drill machines. In addition, a concrete barrier on top of the walls will also be constructed and involve the excavation as well. The soil excavated during vertical and lateral drilling will be stock piled, properly covered to avoid airborne particles and disposed of.

Shoulder Paving
Prior to construction of the secant walls, the shoulder of northbound PCH would be paved. Currently the shoulder is dirt and blocked from access to motorists with K-rail and 8-foot metal fencing. K-rail and fencing was emplaced to exclude shoulder access under a temporary CDP permit to avoid unstable rock fall onto the roadway and motorists. Project construction is complete. The shoulder would be paved and used for traffic management during project construction. Coordination between Caltrans Traffic and regulatory agencies will be needed to determine if the shoulder would be reopened for motorists to utilize after project construction.

Power poles located on the roadway throughout the project area will be relocated for the project. All construction work will occur with the roadway and shoulder. Temporary construction easement of 0.244 acre will be required from State Parks for construction access and staging. The estimated cost for Alternative 2 – Ground Anchor Option is: $13,345,000 at PM 4.0 and $4,823,000 at PM 4.2. Construction is expected to last 1 year.

1.4.3 Alternative 3 – No Build Alternative
Alternative 3 constitutes the “No-Build Alternative” in which none of the proposed improvements would be constructed and the stability of the roadway would remain unchanged. The slope along PCH would not be reinforced with permanent slope protection, therefore the slope would continue to endure surf erosion from storms and cause the foundation of the roadway to be compromised.
1.5 Comparison of Alternatives

Table 1.1 Common and Unique Features of Alternatives

<table>
<thead>
<tr>
<th>Project Feature</th>
<th>Alternative 1</th>
<th>Alternative 2</th>
<th>Alternative 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construct 2 secant walls about: 600 feet long, 100 feet high and 200 feet long</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Secant walls constructed with 42” CIDH concrete piles</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Secant walls constructed with 60” CIDH concrete piles</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secant wall design includes anchors running perpendicular to vertical piles</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Excavation of the face of the slope</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Metal beam guardrail replaced on southbound PCH with Midwest Guardrail System</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Paving shoulder on northbound PCH and removing K-rail and fencing</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Temporary construction easement of 0.244 acres</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Relocation of power poles along the southbound shoulder</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Estimated project cost</td>
<td>$23,725,000</td>
<td>$18,168,000</td>
<td>$0</td>
</tr>
</tbody>
</table>

The 2 build alternatives are similar in that both require CIDH piles to construct 2 underground secant walls, one at PM 4.0 stretching for 601 feet long and one at PM 4.2 stretching for 202 feet long. The main difference between the 2 alternatives is that Alternative 2 – Ground Anchor Option uses a smaller diameter for the CIDH piles because the wall will be further stabilized by ground anchors. The anchors will extend perpendicularly from the piles, into the face of the slope. In order to install the anchors, the face of the slope would be excavated during construction and restored following construction. Alternative 1 – Cantilever Option would not require installation of a ground anchor and instead would use thicker CIDH piles to construct the secant walls. Excavation of the face of the slope would not be required for Alternative 1 – Cantilever Option. Because both build alternatives are equal in structural strength and soundness, both alternatives are being considered as possible engineering design options.
1.6 Permits and Approvals Needed
The following permits and approvals are required prior to construction of the project:

<table>
<thead>
<tr>
<th>Agency</th>
<th>Permit/Approval</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Coastal Commission &amp; Ventura County Planning Division</td>
<td>Coastal Development Permit (CDP)</td>
<td>Application for CDP expected after final environmental document</td>
</tr>
<tr>
<td>Regional Water Quality Control Board</td>
<td>Section 401 Water Quality Certification</td>
<td>Application for Section 401 permit expected after final environmental document</td>
</tr>
<tr>
<td>United States Army Corps of Engineers</td>
<td>Section 404 Permit - Nationwide</td>
<td>Application for Section 404 permit expected after final environmental document</td>
</tr>
<tr>
<td></td>
<td>Navigable Waters Permit</td>
<td></td>
</tr>
<tr>
<td>United States Army Corps of Engineers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilities (power lines)</td>
<td>Approvals to relocate</td>
<td>Prior to any construction activities that would affect utility facilities</td>
</tr>
</tbody>
</table>
Chapter 2: Affected Environment, Environmental Consequences, and Avoidance, Minimization And/Or Mitigation Measures

This chapter discusses project impacts on human, physical, and biological environments within the study area defined for each environmental resource. Analysis of each environmental factor includes discussion of the affected environment, potential environmental impacts (i.e., construction impacts, permanent impacts, cumulative impacts, and indirect impacts), and avoidance, minimization, and mitigation measures for each alternative.

ENVIRONMENTAL TOPICS CONSIDERED BUT DETERMINED NOT TO BE RELEVANT

As part of the scoping and environmental analysis carried out for the project, the following environmental issues were considered but no adverse impacts were identified. As a result, there is no further discussion about these issues in this document.

Community Impacts – Community Character and Cohesion. The proposed project consists of purely reinforcing the stability of the slope on which PCH rests upon. The associated physical changes do not present the potential to evoke any social or economic changes within the community of the project study area.

Community Impacts – Relocations and Real Property Acquisition. No relocations and/or real property acquisition is associated with the proposed project; therefore, no potential community impacts exist within this context.

Community Impacts – Environmental Justice. The proposed project is restricted to the prism of the roadway and does not have the potential to affect any populations located within the project site. No minority or low-income populations that would be adversely affected by the proposed project have been identified as determined above. Therefore, this project is not subject to the provisions of Executive Order 12898.

Farmlands/Timberlands. The proposed project is located in a somewhat rural setting, however the proposed improvements will remain within the roadway’s right of way. No potential exists for direct or indirect irreversible conversion of protected farmlands or timberlands.

Growth. The project does not present the potential to affect growth in the project area as the proposed project will only involve construction of secant walls.

Paleontology. Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils. The project site is not situated within an area with high paleontological resources potential. No impacts on paleontological resources are anticipated.

Noise. A Noise Analysis Memorandum (September 20, 2017) was prepared for this project by Caltrans Office of Environmental Engineering, Noise and Vibration Branch. A Type 1 classification for Caltrans projects is defined in the implementing regulations (23 Code of Federal Regulations [CFR]) of the
Federal-Aid Highway Act of 1970 and given to projects that generally propose construction of a highway on a new location, increase freeway capacity or speed, or propose changes to the alignment of a constructed freeway or highway. This project does not meet the Type 1 criteria defined in 23 CFR 772.

The noise levels within the project area will remain at pre-project levels after construction is completed. During construction, an estimated increase of 3 – 4dBA from construction noise is expected. This increase is considered a less than significant impact on human receptors according to Caltrans’ Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects (May 2011), that states 12dBA as a substantial increase. Additionally, no communities were found to exist within the vicinity of the project to experience noise impacts.

Wild and Scenic Rivers. No Wild and/or Scenic Designated rivers exist with the project study area, therefore the proposed project does not have the potential to adversely affect resources protected by the National Wild and Scenic Rivers Act (16 United States Code ([USC] 1271) and the California Wild and Scenic Rivers Act (CA Public Resources Code [PRC] Section 5093.50 et seq.).

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HUMAN ENVIRONMENT

This section describes the existing land uses in the project area and summarizes current planning activities in the project area.

2.1 Land Use

2.1.1 Existing and Future Land Use

The project site is within a rural area of unincorporated Ventura County. Ventura County is bounded by Santa Barbara County to the northwest, portions of Kern County to the north, and Los Angeles County to the east and south. Unincorporated Ventura County encompasses the majority of the county and is the largest jurisdictional entity. The county also contains 10 incorporated cities known as the Cities of: Ventura, Oxnard, Camarillo, Thousand Oaks, Simi Valley, Moorpark, Port Hueneme, Santa Paula, Fillmore, and Ojai.

The incorporated cities contain the more urbanized portions of the county due to the 1969 County-City agreement, called the Guidelines for Orderly Development. The agreement encourages urban-level development, including dense housing, to incorporated cities within Ventura County. The agreement also severely limits urban-level development within unincorporated Ventura County. As a result, the cities contain the majority of the County’s urban development and population, while much of the County remains rural or semi-rural with large parcels of land dedicated to open space.

The land use trends of the County are consistent with the land use regulations described in the Guidelines for Orderly Development. Ninety-seven percent of the county land is currently planned for open space or agriculture by the General Plan. The open space areas include the Los Padres National Forest, Santa Monica Mountains Conservancy, Coastal Conservancy, land protected by the Save Open-Space and Agricultural Resources (SOAR) voter initiatives, and private land trusts. Agriculture is a vital

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part of the county’s economy and large portions of land is subject to the State Land Conservation Act (LCA) contracts. The Los Padres National Forest is undeveloped, protected forested land that makes up the majority of the northern county.

The project site is located under the designation for Open Space in the Ventura County General Plan. The Open Space designation is defined under Section 65560 of the State Government Code, as any parcel or area of land or water which is essentially unimproved and devoted to an open space as defined as: open space for the preservation of natural resources, open space used for the managed production of resources, open space for outdoor recreation, and open space for public health and safety. The Ventura County General Plan also includes “open space” to define open space to promote the formation and continuation of cohesive communities by defining the boundaries and by helping to prevent urban sprawl; and open space to promote efficient municipal services and facilities by confining urban development to defined development areas. Figure 2-1 shows the General Plan Land Use Map for Ventura County.

The project site is also zoned under Coastal Open Space (COS) Zone in the Ventura County Coastal Zoning Ordinance. The establishment of zones is an effort to regulate population density and segregate the uses of land. Zoning ordinances are designed to be consistent with the general plan of the corresponding county or city. The COS zone is described under Sec 8173-1 as: “The purpose of this zone is to provide for the preservation, maintenance, and enhancement of natural and recreational resources in the coastal areas of the County while allowing reasonable and compatible uses of the land.”

The project area is also under Sec. 8173-13, the Santa Monica Mountains (M) Overlay Zone, and is described as “The Santa Monica Mountains are a unique coastal resource of statewide and national significance. The mountains provide habitats for several unique, rare, or endangered plant and animal species. These habitats can be easily damaged by human activities; therefore, the mountains require specific protective measures.” Therefore, development in this overlay area requires case-by-case consideration and must be consistent with the Coastal Act. The project site is within the South Coast Subarea of the Ventura County’s coastal zone and the land use is designated as approximately: 710 acres of agriculture, 13,545 acres of open space, and 4.0 acres of commercial. The South Coast Subarea Zoning Map of the Ventura County Coastal Area Plan is shown in Figure 2-2.

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4 Ventura County Coastal Zoning Ordinance. 2017. Ventura County Planning Division
5 Ventura County General Plan: Coastal Area Plan. 2017. Ventura County Planning Division.
Figure 2-1: General Plan Land Use Map from Ventura County General Plan. The project site is depicted as a yellow star within the map.
Figure 2-2: South Coast Zoning Map from Ventura County Coastal Area Plan. Project site shown as a yellow star.
Projects Within or Adjacent to the Project Area

The Open Space zoning that covers the project area greatly restricts the type of development permitted for construction. Proposed construction is generally maintenance of the highway or nearby trails. Table 2.1 Recent Proposed Project within the Project Area Table 2.1 is a list of recent proposed construction within the project area and represents the modest development trends in the project vicinity.

Table 2.1 Recent Proposed Project within the Project Area

<table>
<thead>
<tr>
<th>Project Location</th>
<th>Project Description</th>
<th>Project Proponent</th>
<th>Project Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEN-1 PM 4.2, 4.6, and 4.7</td>
<td>Placement of a 75-linear foot rock revetment of about 8 feet high, consisting of 3-ton stones at PM 4.2 with the base of the revetment on the beach. Placement of additional rip rap on top of an existing 400 linear foot rock revetment, consisting of 6 to 8-ton stones, and shoulder crack repairs at PM 4.6.</td>
<td>Caltrans</td>
<td>Emergency CDP was issued on October 2015. Construction Completed.</td>
</tr>
<tr>
<td>VEN-1 PM 1.0 to 10.6, Sycamore Canyon Campground, and Mugu State Park</td>
<td>To remove and clear the mud and debris from the roadway and drainage systems. Repair storm related damage to the highway and roadbed support systems. Remove unstable rocks and boulders from the cliffs located along the north, landward side of PCH. Add soil to the road bed in order to raise PCH to an elevation that would prevent Sycamore Creek from overflowing the roadway and berm across road intersections of side canyons in order to allow future water and debris to flow into the creek rather than depositing on the road.</td>
<td>Caltrans</td>
<td>Emergency CDP was issued on December 2014 and amended on January 2015. Construction Completed.</td>
</tr>
<tr>
<td>VEN-1 PM 4.5 to 4.6</td>
<td>Replacement of the existing Rock Slope Protection structure with a new sea wall and construct a secant wall on the west side of the Big Sycamore Bridge. Replacement of the existing bridge railing and associated metal beam guard rail, with Midwest Guardrail System.</td>
<td>Caltrans</td>
<td>Project is undergoing preliminary design.</td>
</tr>
<tr>
<td>VEN-1 PM 0.0 to 4.4</td>
<td>Pavement rehabilitation from the Los Angeles County Line through Sycamore Canyon Road by cold planing 0.2 feet of asphalt on the roadway and overlaying with 0.2 feet of rubberized hot mixed asphalt.</td>
<td>Caltrans</td>
<td>RTL planned for March 2018</td>
</tr>
<tr>
<td>Sycamore Cove Day Use Beach in Point Mugu State Park</td>
<td>To construct accessibility improvements on the facilities within Point Mugu State Park. The improvements include, but are not limited to, modifications to: restroom shelters, portable restrooms, accessible parking, signage, paths of travel, water stations, showers, and trash receptacles.</td>
<td>California Department of Parks and Recreation</td>
<td>Notice of Exemption completed on August 2017.</td>
</tr>
</tbody>
</table>
Upper Sycamore Canyon Trail in Point Mugu State Park | Repair the Upper Sycamore Canyon Trail after it was severely eroded after rain events following a 2013 fire. The repairs involve constructing a retaining wall from native rock, along the current trail and installing splash stones for energy dissipation at the bottom of the drainage channel at the foot of the trail. | California Department of Parks and Recreation | Notice of Exemption completed on October 2017.

2.1.2 Consistency with State, Regional, and Local Plans and Programs
The Santa Monica Mountains bound the project site to the east with vast undeveloped, open land. The Santa Monica Mountains along PM 4.2 contain portions of Sycamore Canyon Campground that is part of Point Mugu State Park and is open to the public. The Pacific Ocean extends along the western edge of the project site. The beach habitat along the project site varies from rocky cliffs along PM 4.0 that provides no public beach access, to Sycamore Cove Beach at PM 4.2 that provides access to a sandy beach with a large dirt slope and is managed by Point Mugu State Park.

The proposed project site is under jurisdiction of unincorporated Ventura County and is mentioned in Ventura County’s General Plan. As designated in the General Plan, the project is also covered in the Coastal Area Plan. The Coastal Area Plan is a planning and management document for coastal communities. In addition, the proposed project is stipulated for federal funding as shown in the FTIP. A description of the planning documents, as well as the planning goals and policies related to the proposed project, are described below.

2.1.3 Environmental Consequences

Federal Transportation Improvement Program (FTIP)
The FTIP is a listing of all transportation projects proposed over a 6 year period that will receive federal funding or are subject to a federally required action. The FTIP identifies the funding sources and fund amounts for each proposed project. The Southern California Association of Governments (SCAG) is the Metropolitan Planning Organization (MPO) that is responsible for preparing the FTIP submittal for the regional transportation planning agencies of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. The proposed project is listed in and consistent with the 2017 FTIP (ID VENLS10).

Ventura County General Plan
The Ventura County General Plan fulfills the requirements outlined in Section 65300 of the California Government Code which states, “Each planning agency shall prepare and the legislative body of each county and city shall adopt a comprehensive, long-term general plan for the physical development of the county or city...” The General Plan identifies goals, policies, and programs relating to the preservation, conservation, production, and utilization of resources in Ventura County. Development in the area should remain consistent with the goals detailed in the General Plan, and policies and programs should be implemented in the most applicable manner possible, in order to meet the goals set out in the General Plan. Table 2.2 below shows goals and policies included in the General Plan that are related to the proposed project.
### Table 2.2 Goals and Policies mentioned in the General Plan related to the proposed project

<p>| Goal 1.1.1 (2). Plan for the preservation, conservation, efficient use of, enjoyment of, and access to resources, as appropriate, within Ventura County for present and future generations. | <strong>Consistent.</strong> The Build Alternatives would construct 2 seawalls to protect the slope below PCH from further erosion in an effort to preserve usability of PCH for future access to resources within Ventura County. | <strong>Not Consistent.</strong> The slope below PCH is expected to continue to erode due to storm and high tide events, which will eventually cause PCH to become a safety concern and unusable. Thereby restricting future access to resources in Ventura County. |
| Goal 1.7.1 (2). Protect the visual resources within the viewshed of lakes and State and County designated scenic highways, and other scenic areas as may be identified by an area plan. | <strong>Consistent.</strong> The Build Alternatives is not proposing any features that would obstruct the scenic views from PCH. The proposed seawalls would help preserve the Eligible State Scenic Highway for the future. | <strong>Not Consistent.</strong> The No Build Alternative would not improve conditions to protect the life of the Eligible State Scenic Highway for the future. |
| Goal 2.1.1. Shield public and private property and essential facilities from identified hazards and potential disasters. | <strong>Consistent.</strong> The Build Alternatives would protect PCH from further deterioration caused by major storm events. | <strong>Not Consistent.</strong> Under the No Build Alternative, the slope upholding PCH would remain exposed and unprotected from potential disasters. |
| Goal 2.12.1 (1). Minimize the risk from the damaging effects of coastal wave hazards and beach erosion. (2) Reduce the rate of beach erosion. | <strong>Consistent.</strong> The Build Alternatives would reduce the risk of the roadway becoming unstable and unsafe due to slope erosion. The seawalls would provide protection from damages caused by coastal waves. | <strong>Not Consistent.</strong> The No Build Alternative does not propose any structures to minimize the risk of or reduce the rate of beach erosion on the slope upholding PCH. |
| Goal 3.2.1 Open Space (4). Retain open space lands for outdoor recreational activities, parks, trails and for scenic lands. | <strong>Consistent.</strong> The Build Alternatives would preserve the usability of PCH, which is the main | <strong>Consistent.</strong> The No Build Alternative would not conflict with activities determined for Open |</p>
<table>
<thead>
<tr>
<th>Policies 3.2.2 Open Space (3). Open Space should also include areas within which recreational activities can be pursued, including, but not limited to, use and enjoyment of recreational trails and areas for hunting and fishing. Preservation of open space also serves to protect areas of outstanding scenic, historic, and cultural value; areas particularly suited for park and recreation purposes, including access to lakeshores, beaches, and rivers and streams; and areas which serve as links between major recreation and open space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.</th>
<th>Consistent. The Build Alternatives would help to preserve access on PCH, which is an Eligible State Scenic Highway at the project location with scenic value; as well as a thoroughfare that links areas of recreation and open space.</th>
<th>Not Consistent. The No Build Alternative will threaten the preservation of PCH, which qualifies as an Open Space recreational activity described in this policy, by not directly protecting the roadway from the threat of beach erosion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 4.2.1 (1). Facilitate the safe and efficient movement of persons and goods by encouraging the design, construction, and maintenance of an integrated transportation and circulation system consisting of regional and local roads, bus transit, bike paths, ridesharing, rail transit and freight service, airports and harbors.</td>
<td>Consistent. The Build Alternatives would better maintain PCH which is part of the integrated transportation system for Ventura County.</td>
<td>Not Consistent. The No Build Alternative would not facilitate the design, construction, or maintenance of the transportation system.</td>
</tr>
</tbody>
</table>

Ventura County Coastal Area Plan

Ventura County’s Coastal Area Plan and the Coastal Zoning Ordinance together constitute the “Local Coastal Program” (LCP). The LCP is mandated by the 1976 Coastal Act, which requires coastal counties to prepare a comprehensive planning and regulatory program to manage coastal development and conserve coastal resources. The Ventura County’s coastal zone is 43 miles long and the entire project location is found within the South Coast Subarea of the Ventura County’s Coastal Area Plan. The Table 2.3 below describes the planning goals and policies in the Coastal Area Plan that are related to the proposed project.
Table 2.3 Goals and Policies mentioned in the Coastal Area Plan related to the proposed project

<table>
<thead>
<tr>
<th>Goals/Policy</th>
<th>Build Alternatives</th>
<th>No Build Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Visual Resource Goal 1.</strong> Maintain and enhance the County’s scenic and visual resources for the current and future enjoyment of its residents and visitors.</td>
<td><strong>Consistent.</strong> The Build Alternatives propose infrastructure to preserve PCH, which is an Eligible State Scenic Highway at the proposed project location.</td>
<td><strong>Not Consistent.</strong> Under the No Build Alternative, no improvements would be made in an effort to maintain visual resources, including PCH.</td>
</tr>
<tr>
<td><strong>Recreation Access Goal 1.</strong> To maximize public access to coastal recreational areas in the South Coast sub-area consistent with private property rights, natural resources and processes, and the Coastal Act; to maintain existing access, and seek new access as funds become available.</td>
<td><strong>Consistent.</strong> The purpose of both Build Alternatives is to stabilize the slope below PCH from further erosion, in order to prevent deterioration of the roadway. This action will maintain access to recreational areas around the project site during construction and for future traveling motorists.</td>
<td><strong>Not Consistent.</strong> The No Build Alternative would not protect the existing coastal access. The slope supporting PCH will continue to erode and access for motorists will eventually be compromised.</td>
</tr>
<tr>
<td><strong>Beach Erosion Policy 1.</strong> Construction or maintenance of shoreline structures will be limited to only those projects needed to protect existing development, public recreation, and existing roads from beach erosion.</td>
<td><strong>Consistent.</strong> The Build Alternative proposes the seawall structure in order to protect the existing PCH from beach/slope erosion.</td>
<td><strong>Consistent.</strong> The No Build Alternative would not construct any shoreline structures, which would make this policy not applicable.</td>
</tr>
</tbody>
</table>

2.1.4 Avoidance, Minimization, and/or Mitigation Measures

Alternatives 1 and 2 – Build Alternatives

The Build Alternatives would be consistent with the stated objectives of these local plans, therefore avoidance, minimization, and/or mitigation measures for land use impacts are not required.

Alternative 3 – No Build Alternative

Avoidance, minimization and/or mitigation measures are not required.

2.2 Coastal Zone

2.2.1 Regulatory Setting

This project has the potential to affect resources protected by the Coastal Zone Management Act (CZMA) of 1972. The CZMA is the primary federal law enacted to preserve and protect coastal resources. The CZMA sets up a program under which coastal states are encouraged to develop coastal management programs. States with an approved coastal management plan are able to review federal permits and activities to determine if they are consistent with the state’s management plan.

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VEN 01 – Permanent Slope Restoration Project
California has developed a coastal zone management plan and has enacted its own law, the California Coastal Act of 1976, to protect the coastline. The policies established by the California Coastal Act are similar to those for the CZMA: They include the protection and expansion of public access and recreation; the protection, enhancement, and restoration of environmentally sensitive areas; the protection of agricultural lands; the protection of scenic beauty; and the protection of property and life from coastal hazards. The California Coastal Commission (Commission) is responsible for implementation and oversight under the California Coastal Act.

Just as the federal CZMA delegates power to coastal states to develop their own coastal management plans, the California Coastal Act delegates power to local governments to enact their own local coastal programs (LCPs). This project is subject to Ventura County’s local coastal program. LCPs contain the ground rules for development and protection of coastal resources in their jurisdiction consistent with the California Coastal Act goals. A Federal Consistency Certification will be needed as well. The Federal Consistency Certification process will be initiated prior to FED and will be completed to the maximum extent possible during the NEPA process.

Section 30235 of the Coastal Act reads “Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline process shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply.” A consolidated CDP from the Commission and Ventura County Planning Division will be required for both Build Alternatives.

2.2.2 Affected Environment
The proposed project site is included in the 2017 Plan for Improved Agency Partnering between Caltrans and the Commission. The report is a result of invested efforts to improve coordination and communication between the two state agencies. The report sets out recommendations for identifying ways to improve planning coordination for two focus areas in order to alleviate common challenges to permitting Caltrans projects in the Coastal Zone. The two focus areas are collaborating on the California Coastal Trail (CCT), which is proposed to be extended through the proposed project site, and sea level rise.

The concept of the CCT is to establish a continuous, interconnected public trail along the California shoreline from the Mexico border to Oregon state line. The Commission has supported the concept of such a trail to foster appreciation and stewardship of the scenic and natural resources of the coast. Establishment of the CCT can be accomplished by combining one of the key missions of the Commission, which is advancing coastal access to the general public, with Caltrans’ commitment to multi-modal transportation. Opportunities to combine both of the agencies’ missions exist when transportation projects in the coastal zone fall within the State Highway System.

The other focus area from the 2017 Plan for Improved Agency Partnering, and the most challenging, is sea level rise. Planners and engineers need a clearer direction to implement guidelines on analyzing and planning for impacts to Caltrans projects and infrastructure due to sea level rise. Resources available to Caltrans planners in the early project development phase, may not be sufficient to conduct analyses for sea level rise that the Commission would deem appropriate. Therefore the 2017 Plan proposes recommendations to (1) screen for potential impacts from sea level rise on Caltrans projects that are currently undergoing development and (2) develop more robust, long term response guidelines to address sea level rise in the Caltrans planning phase by building upon the results of ongoing vulnerability
assessments. The Commission understands that better planning for sea level rise will allow the agency to continue fulfilling its leadership role, as established in the Coastal Act, of protecting public access and recreation along the coast, while simultaneously minimizing risks from coastal hazards. Caltrans must plan for sea level rise in order to protect the vulnerable assets of the statewide transportation network that exists along the coast.

2.2.3 Environmental Consequences
Alternatives 1 and 2 – Build Alternatives
The CCT is proposed to extend as a multi-modal trail along PCH through the project area. PCH within the project site accommodates 1 southbound lane and 2 northbound lanes that converge into one lane just outside the project site. The shoulders on the southbound lane range from 10 feet (at PM 4.2) to 0 feet (at PM 4.0), the northbound shoulder is blocked from vehicle access, and the roadway is along the cliffs of the shoreline (see Figure 2-3). Installing multi-modal options along the highway would be a financial burden and engineering challenge that is beyond the scope of this project. However, construction of either Build Alternative does not prohibit future implementation of multi-modal options for other Caltrans projects. Moreover, the Build Alternatives will protect the roadway from deterioration due to erosion and preserve travel along PCH for the future, including the possibility of constructing multi-modal options.

![Figure 2-3: Travel lanes and shoulders of project area by PM 4.0](image)

A wave run-up study will be prepared, per the request from the Commission. Wave run-up is the maximum vertical height of a wave breaking on a beach or structure, from above the still water level. Wave run-up depends on the local water level, incident wave conditions, and dimensions of the beach or structure the wave breaks against. The wave run-up study will analyze the wave uprush against the slope supporting PCH within the project site and how that structure will impact the wave reflection curve on the coastline from dissipation of wave energy. In addition, the wave run-up study will also include the effects of sea level rise. Sea level will rise due to increases of carbon dioxide in the atmosphere. The current rate of sea level increase along the California coast is about 0.1 inch per year. Various numerical models predict increases in sea level rise over the coming 100 years to be between
0.6 feet and 1.6 feet. In addition, the California State Coastal Conservancy Memo (2009) requires projects to be evaluated for a vulnerability of sea level rise of 16 inches by 2050 and 55 inches by 2100. The Wave Run-Up study being prepared for this project will further evaluate the sea level rise in the project area and ensure current regulations are met.

The Wave Run-Up study will combine local flood elevations from FEMA and Army Corps, with various sea level rise scenarios for two future dates in the life of the proposed project. The current and future scenarios with sea level rise will be used as the still water level for analyzing the nearshore wave conditions in the SWAN wave modeling program. The results of the SWAN model will be used to obtain the wave conditions, such as wave heights, periods and wave setup at the shoreline, for use in the wave run-up analysis for this project. Therefore, effects of sea level rise will be analyzed in terms of wave dynamics and flooding vulnerability with both Build Alternatives. In addition, Chapter 3 of this document discusses sea level rise in the context of climate change under CEQA.

**Alternative 3 – No Build Alternative**
The No Build Alternative would make no changes to the current shoreline. The slope would continue to erode from natural causes which would eventually cause roadway damage to PCH to become unsafe and unsuitable for travelling motorists. The removal of PCH as a thoroughfare would affect access to the coastline, which is contrary to the mission of the Commission and against the 2017 Plan for Improved Agency Partnering. Also, if PCH becomes an unusable roadway, the vision to make CCT along PCH available for multi-modal uses would prove to be a greater challenge than it currently is.

Additionally, the No Build Alternative would not consider the impacts of rising sea levels on the project site or any sea level rise analyses.

**2.2.4 Avoidance, Minimization, and/or Mitigation Measures**

**Alternatives 1 and 2 – Build Alternatives**
No avoidance, minimization, and/or mitigation measures would be required.

**Alternative 3 – No Build Alternative**
No avoidance, minimization, and/or mitigation measures would be required.

**2.3 Parks and Recreational Facilities**

**2.3.1 Affected Environment**
Point Mugu State Park is located within the vicinity of the project area. The State park is found within the Santa Monica Mountains and features 5 miles of ocean shoreline with rocky bluffs, sand dunes, sandy beaches, rugged hills, 2 major river canyons, and wide grassy valleys. Sycamore Cove Beach is a public day use area within Point Mugu State Park open to the public from 8:00am to sunset and is located about 300 feet away from the proposed secant wall at PM 4.2.

The project site within the Coastal Area Plan, which in collaboration with the Coastal Zoning Ordinance makes up the local coastal plan, designates the land use of the area to be Open Space with an overlay of the Santa Monica Mountains. The Santa Monica Mountains are valued for their recreation potential and mostly undeveloped habitat. Recreation has taken on national significance with the formation of the Santa Monica Mountains National Recreation Area. The geologically young mountain range contains rugged terrain and diverse habitats supporting a wide number of ecosystems. The landscape includes...
riparian and oak woodlands, but is dominated by chaparral and coastal sage. Most access to the Santa Monica Mountains is available through PCH\textsuperscript{6}.

Sycamore Cove Beach is a southwest-facing sandy beach that provides the opportunity for shoreline activities, in addition to picnic tables, lifeguard towers, parking, and restrooms. Across PCH from Sycamore Cove Beach, is a large campground called Sycamore Canyon Campground which features 58 accessible campgrounds, 70 miles of extensive hiking trails within Boney Mountains State Wilderness Area, restrooms with showers, and a nature center (see Figure 2-4). Therefore, many visitors staying in the campground, frequent Sycamore Cove Beach for day use activities such as, swimming and picnicking. Sycamore Cove Beach also contains 3 small parking lots that collectively offer 125 parking spots and can accommodate recreational vehicle (RV) parking. Both Sycamore Cove Beach and Sycamore Canyon Campground help make up a portion of Point Mugu State Park\textsuperscript{7}.

\textsuperscript{6} California State Parks. Website: https://www.parks.ca.gov/?page_id=630, accessed December 2017.  
Figure 2-4: Visitor maps of Sycamore Canyon Campground and Sycamore Cove Day Use within Point Mugu State Park.
2.3.2 Environmental Consequences

Alternatives 1 and 2 – Build Alternatives

Point Mugu State Park qualifies as a Section 4(f) resource as defined in the Department of Transportation Act of 1966, under the special provision 23 CFR 774. Section 4(f) stipulates that FHWA and other U.S. Department of Transportation agencies cannot approve the use of land from a significant publicly owned park, recreation area, wildlife or waterfowl refuge, or any significant historic site unless there is no feasible and prudent alternative to the use of the land; and the action includes possible planning to minimize harm to the property resulting from use. The purpose of Section 4(f) is to protect these Section 4(f) resources from being converted into transportation facilities, in an effort to preserve the use of these significant resources. Point Mugu State Park is a publicly owned park and recreation area; therefore, the park is protected under Section 4(f) and is afforded special provisions under Section 4(f).

Temporary construction easements (TCE) within Point Mugu State Park will be required for construction of the two secant walls, under both build alternatives. TCE is proposed at PM 4.0 for 0.206 acres and PM 4.2 for 0.038 acres. The State of California Department of Parks and Recreation is the property owner of the two strips of land, adjacent to the shoulder of southbound PCH proposed for TCE (see Figure 2-5). Because Point Mugu State Park is considered a Section 4(f) resource, the “use” of the park for Caltrans project construction must be analyzed. Section 4(f) defines “use” in three ways: permanent incorporation, temporary occupancy, and constructive use.

The TCE on Point Mugu State Park for the proposed build alternatives would result in a temporary impact on the Section 4(f) resource. Temporary occupancy best fits the use of Point Mugu State Park than the other two uses. Permanent incorporation is used when Section 4(f) land is permanently incorporated into a transportation facility and constructive use occurs when the proximity impacts of the proposed project on an adjacent Section 4(f) property are so severe, that the activities, features, or attributes of the Section 4(f) resource are substantially impaired. TCE does not meet the described use of permanent incorporation or constructive use. Temporary occupancy is applied when property is not permanently incorporated into a transportation facility and is required for construction-related activities. However according to Section 4(f) regulations, if the five conditions listed in 23 CFR 774.13(d) are met, there is no “use” and a temporary occupancy exception applies. Those conditions would be met for Point Mugu State Park, as follows:

- The duration of construction in the area of the TCE is temporary (estimated 1 year) and would be less than the total time needed to construct the entire project. There would be no change in the ownership of the land in the portion of the properties used as TCE.

- The scope of work within Point Mugu State Park proposed for TCE, would be minor. The property would be used for construction/equipment staging, materials stockpiles, and construction fencing. The 4 feet of slope excavation required for Alternative 2 – Ground Anchor Option, would be fully restored after construction. No other substantial construction activities would take place in the property used for TCE.

- The construction activities in the TCEs would not result in any permanent adverse physical impacts in the area and would not interfere with the protected activities, features, or attributes on Point Mugu State Park on a temporary or permanent basis. Public access to the area involving the TCE will be closed during occupancy. However, recreational uses and access to the
remaining portions of Point Mugu State Park would continue to be available during construction. Therefore, the protected activities, features, or attributes of the properties would not be substantially affected during construction.

- The area used for TCE would be fully restored prior to returning the area to the State of California Department of Parks and Recreation, so as to return the area to equal or better condition than when the area was used for TCE.

- There must be a documented agreement of the official with jurisdiction over the Section 4(f) resource regarding the above conditions. A documented agreement of the official with jurisdiction is required. Caltrans submitted a coordination letter to the State of California Department of Parks and Recreation on September 7, 2018.

The five conditions listed in 23 CFR 774.13(d) would be met for the proposed TCE, therefore these temporary occupancies would not constitute a use.

The following project feature would ensure that all conditions to qualify for a Section 4(f) temporary occupancy exception.

**PAR-1** As required by 1 of the 5 conditions listed in 23 CFR 774.13(d) for temporary occupancy exception, after construction the TCE will be full restored to its original state or better than when the area was acquired for TCE. This shall include installing the appropriate amount of dirt to fill the excavated slope and replanting the slope with native plants. Coordination with the State of California Department of Parks and Recreation will be conducted prior to final design plans in order to ensure the TCE area is fully restored.
Figure 2-5: Location of temporary construction easements needed for both build alternatives.
Alternative 3 – No Build Alternative
The No Build Alternative would involve no construction within the proximity of Point Mugu State Park. The park would remain at current conditions and unaffected by any physical construction. Additionally, no TCE would be required because there would be no construction along the roadway. There would be no impacts to Point Mugu State Park under the No Build Alternative.

2.3.3 Avoidance, Minimization, and/or Mitigation Measures
Alternatives 1 and 2 – Build Alternatives
No avoidance, minimization, and/or mitigation measures would be required.

Alternative 3 – No Build Alternative
No avoidance, minimization, and/or mitigation measures would be required.

2.4 Utilities
2.4.1 Regulatory Setting
California Code of Regulations Street and Highways Code Sections 700-711 discuss utility relocation policies and procedures. Public Resources Codes 21083, 21087 and CEQA Guidelines Section 15126.2(a) require lead agencies to assess the impact of a proposed project by examining alterations in the human use of the land, including public services. Public Utilities Commission General Order 131-D provides guidance for transportation projects that involve relocation of 50-kilovolt (kV) or higher transmission lines.

2.4.2 Affected Environment
The project study area is within the jurisdiction of several utilities services. Domestic water services are supplied by Calleguas Municipal Water District. Wastewater treatment and sanitation is managed by Ventura Regional Sanitation District. Collection of solid waste is provided by E.J. Harrison & Sons. Electricity is distributed by Southern California Edison and natural gas is supplied by Southern California Gas Company. Emergency services in regards to fire protection and law enforcement, are administered within the project area by the Ventura County Fire Department and Ventura County Sheriff’s Office respectively.

2.4.3 Environmental Consequences
Alternatives 1 and 2 – Build Alternatives
Potential impacts on public utilities and services were determined by inventorying those facilities located within the project study area. Power poles owned by Southern California Edison are present through southbound PCH. Both build alternatives would require the relocation of 5 power poles located throughout the project study area on PCH.

Coordination with utility companies is a standard Caltrans procedure during the final design phase. Southern California Edison has been notified that their facilities must be relocated for project construction. Utilities would be relocated using standard engineering practices to avoid service disruption. The location of the reinstated power poles will be determined during the final design phases of the project when coordination with the utility companies is finalized. The power poles have the potential to be relocated to the same location prior to project construction, or elsewhere along PCH.

UT-1 Caltrans will coordinate with all affected private and public service utilities during the design phase to identify any potential conflicts with existing utilities. This process will include seeking
approval from utility providers on where to relocate utilities following construction if restoring location in-place is not possible.

The proposed project would not result in temporary or long-term impacts to emergency services with the incorporation of project feature UT-2. As with any freeway or highway construction project, the closure of any lanes during construction needs to be coordinated with local emergency services. Emergency responders will be allowed to utilize PCH through the project area, when responding to crisis calls.

**UT-2** Emergency services will be informed of any proposed detour routes to avoid any impacts to their response times. Furthermore, the Traffic Management plan described in the following section (Section 2.5 Traffic and Transportation/Pedestrian and Bicycle Facilities), will provide a circulation traffic plan for access through the project site during construction to avoid impacts.

**Alternatives 3 – No Build Alternative**
Should the proposed project never undergo construction, there would be no physical alterations to PCH or the surrounding environment. Therefore, there would be no potential to impact utilities or emergency services.

### 2.4.4 Avoidance, Minimization, and/or Mitigation Measures

**Alternatives 1 and 2 – Build Alternatives**
No avoidance, minimization, and/or mitigation measures would be required.

**Alternative 3 – No Build Alternative**
No avoidance, minimization, and/or mitigation measures would be required.

### 2.5 Traffic and Transportation/Pedestrian and Bicycle Facilities

#### 2.5.1 Regulatory Setting
Caltrans, as assigned by the Federal Highway Administration (FHWA), directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of Federal-aid highway projects (see 23 Code of Federal Regulations [CFR] 652). It further directs that the special needs of the elderly and the disabled must be considered in all Federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). The FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to federal-aid projects, including Transportation Enhancement Activities.

#### 2.5.2 Affected Environment
PCH is a major north-south multilane, conventional highway that serves as the only convenient route along the coast connecting Los Angeles County to Ventura County. Through the project area, PCH mostly
contains 1 travel lane in each direction, except for a segment near PM 4.2 southbound where the highway transitions from 2 lanes into 1 lane and continues as 1 lane through PM 4.0. The shoulders through this area vary between about 4 feet to 8 feet. No designated bicycle lanes or facilities exist through the project area. However, because the highway offers such scenic vistas, bicyclists are attracted to the area and often utilize the limited shoulder space or occupy one of the travel through lanes, despite the lack of designated bicycle facilities.

Parking is permitted along the shoulder at PM 4.2, except from 10:00pm to 5:00am when parking is restricted. Flat space for a parked vehicle is limited along the shoulder however, because parts of the shoulder are obstructed by large bushes and mounds of dirt. Parking is prohibited past PM 4.2 as the motorist travels southbound.

2.5.3 Environmental Consequences
Alternatives 1 and 2 – Build Alternatives
Construction of both build alternatives would occur on the existing State highway and shoulders. Drilling for the secant walls will be performed within the State right-of-way just outside the shoulder of southbound PCH, on the other side of the metal beam guardrails for both proposed secant walls. The shoulders on northbound PCH are proposed to be paved, prior to undergoing construction of the secant walls. Coordination between Caltrans Traffic and regulatory agencies is needed to determine if the shoulders will remain open for public access following construction.

PCH is a major artery for Ventura and Los Angeles County and closing access to this area would create a significant impact to traffic. Therefore, a Traffic Management Plan will be prepared to direct traffic operations during construction, as shown in TRA-1. One lane in each direction will remain open during construction, so that traffic and emergency vehicles can maintain regular access through the area. The southbound lane will be closed during construction for construction work, staging, and equipment. Traffic on PCH will be shifted to the right with the original northbound lane used for southbound traffic and the northbound shoulder would be paved for use as the northbound lane for traffic. The lanes would be at minimum 10 feet wide. Outside of the construction area, traffic will continue to utilize the original highway configuration. The proposed project would not significantly impact traffic operations during construction.

TRA-1 Traffic operations and access through the project area will remain unrestricted during construction and impacts to motorists would remain minimal to the fullest extent possible through the Traffic Management Plan.

Access to the parking lot at Sycamore Canyon Campground and Sycamore Cove Beach will remain open and not impacted by construction. Parking along the shoulder from about PM 4.15 to PM 4.20 will be unavailable during construction. The removal of parking is considered a less than significant impact because parking on PCH will be removed temporarily for just a short distance and the parking lots of Sycamore Cove Beach with 125 parking spots can accommodate motorists visiting the beach. Beach access to Sycamore Cove Beach, the only beach within the area, will not be impacted or restricted to public access. Similarly, recreational access to Sycamore Canyon Campground will not be impacted by the project.

Alternative 3 – No Build Alternative
The highway travel lanes and shoulder would remain at current conditions in the No Build Alternative. The number of travel lanes would remain, parking would not be interrupted on the southbound
shoulder, and the northbound shoulder would remain blocked from traffic and unpaved without any prospect of reopening. The roadway would continue to be at risk of erosion from impeding waves, with the possibility of eventually becoming so compromised that it would be unsafe for motorists to utilize this stretch of PCH.

2.5.4 Avoidance, Minimization, and/or Mitigation Measures
Alternatives 1 and 2 – Build Alternatives
No avoidance, minimization, and/or mitigation measures would be required.

Alternative 3 – No Build Alternative
No avoidance, minimization, and/or mitigation measures would be required.

2.6 Visual/Aesthetics

2.6.1 Regulatory Setting
The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically (emphasis added) and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA), in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state “with...enjoyment of aesthetic, natural, scenic and historic environmental qualities” (CA Public Resources Code [PRC] Section 21001[b]).

2.6.2 Affected Environment
A Visual Impact Assessment was prepared (Caltrans Office of Landscape Architecture) on October 13, 2017 to assess the proposed project’s potential to affect visual resources through activities such as excavation for construction of the secant walls, vegetation removal, and shoulder railing removal. The proposed project is on PCH from PM 4.0 to PM 4.2 within unincorporated Ventura County and is within close proximity to Point Mugu State Park, which is heavily used for outdoor recreational purposes.

The area within PM 4.0 does not contain much vegetation, but instead contains the manmade large boulders and geotechnical fabric that was installed in January 2015 to stabilize the slope. The boulders are a dark grey color to resemble a natural rock tone. Also, this site does not offer any beach access. The area within PM 4.2 contains beach access to Sycamore Cove Day Beach, managed by State Parks. The slope between the roadway and the beach is a sandy, natural slope that contains sparse vegetation. Beside the northern terminus of the proposed secant wall at post mile 4.2, there is a natural large boulder that can be accessed from the roadway shoulder and climbed.

Adjacent to the mountain on the northbound side of PCH, the shoulder is currently dirt and is blocked off by vehicular access as a result of a previous Caltrans project. The previous project required enclosing the shoulder with k-rail and metal fencing of about 6 feet high, which is still deployed at PM 4.0. The k-rail and metal fencing obstructs the motorists’ views of the cut mountain.
PCH is not considered a sensitive corridor regarding visual resources because, although the County of Ventura’s LCP indicates this segment of the highway as eligible for listing as a State Scenic Highway, the County has not sought designation. The highway does however, offer natural scenic views that are highly valued by travelers and impacts to those scenic views were considered in this project. The key views from PCH within the project area are the Pacific Ocean and beach to the west (Figure 2-6 and Figure 2-7) and mountains to the east (Figure 2-8).

Figure 2-6: Key viewshed of motorists looking to the northwest.
Figure 2-7: Key viewshed of motorists looking to the southwest.

Figure 2-8: Key viewshed of motorists looking to the east.
2.6.3  Environmental Consequences

Alternatives 1 and 2 – Build Alternatives

Secant Walls
The secant walls are proposed to be constructed entirely underground. The project plans indicate that the walls will not be seen above-ground or result in substantial adverse impacts to the visual environment. As a result, the proposed design will not obstruct any ocean, beach or mountain views from the traveling motorist. The secant walls are not a visual impact to the highway’s viewsheds.

Shoulder Paving
Both build alternatives propose paving on the shoulder of northbound PCH. The shoulder is currently dirt and will be paved with asphalt concrete. No excavation of the mountain will be required for widening of the shoulder. After the shoulder is paved, the k-rail and metal fencing have the possibility of being removed following coordination between Caltrans Traffic and regulatory agencies. This action has the possibility of improving the visual character of PCH, as the motorists would not have an obstructive view of the mountain and there would be less unnatural objects impairing the natural scenic elements of PCH. This action is being considered by the Caltrans project development team.

Guardrails
Guardrails along the southbound side of PCH is proposed for both build alternatives. The function of guard railings for transportation purposes, is to retain and safely redirect errant vehicles in order to minimize injury and damage. In addition to this function, Caltrans’ Context Sensitive Solutions policy implements a philosophy of integrating the transportation system into the place it serves. A project should be designed so as to fit harmoniously with both community goals and the local environment. The goal is echoed and further implemented by the Commission, which works to integrate projects so as to not impede on the scenic and visual aspects of the coast. The Commission has expressed interest in incorporating barriers that are open to allow views of the ocean from and adjacent to the roadway. As a result, in a collaborative effort between Caltrans and the Commission to ensure the scenic and visual elements of the coast are preserved, and the California Coastal Act of 1976 is admittedly abided by, Caltrans published “Bridge Rails and Barriers – A Reference Guide for Transportation Projects in the Coastal Zone”.

Through use of the Reference Guide, the Visual Impact Assessment recommends color staining the concrete mix to match the natural color of the existing rock features and use that concrete for any concrete surface above ground. The concrete color is intended to visually blend these structures into the natural surroundings. The concrete structures that are above ground and proposed in the build alternatives, are guardrails along southbound PCH. The 30” existing metal beam guard railing will be removed for construction of the secant walls and replaced with Midwest Guardrail System at 32”. The wooden posts of the guardrail will be replaced in kind to match the visual character prior to construction. The new guardrail will be 2” taller than the previously installed guardrail, however motorists will still be able to clearly see over the guardrail. In addition, the wooden posts will remain the same. Therefore, the guardrails are not considered a significant impact.

Boulders and Plants
Any boulders placed along the slope should closely match the color of the native rocks. Any plants removed during construction shall be replaced to the extent possible. Native plants help restore areas to a more natural state, making it more consistent with the natural aesthetic of the area. Further discussion on native plants will be discussed in Biological Environment- Invasive Plants, of this document.
Alternative 3 – No Build Alternative
If the proposed project were not built, there would be no alterations or stabilization to the existing highway or slope, posing no changes to existing visual resources. The visual impairments and the roadway’s vulnerability to erosion would remain. The roadway could possibly become so deteriorated that the highway becomes inaccessible and the viewsheds are not enjoyed by traveling motorists. The current status of the highway would remain.

2.6.4 Avoidance, Minimization, and/or Mitigation Measures
Alternatives 1 and 2 – Build Alternatives
No avoidance, minimization, and/or mitigation measures would be required.

Alternative 3 – No Build Alternative
If the proposed project were not built, there would be no alterations or stabilization to the existing highway or slope, posing no changes to existing visual resources. There would not require any measures to minimize any effects, therefore it would present no potential impacts to existing visual resources.

2.7 Cultural Resources
2.7.1 Regulatory Setting
The term “cultural resources,” as used in this document, refers to the “built environment” (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the ACHP, the California State Historic Preservation Officer (SHPO), and Caltrans went into effect for Caltrans projects, both state and local, with FHWA involvement. The PA implements the ACHP’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The FHWA’s responsibilities under the PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as “unique” archaeological resources. California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term “tribal cultural resources” to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal
cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way.

2.7.2 Affected Environment

General Setting
The project area is situated on a marine cut terrace directly above the Pacific Ocean coastline, with Big Sycamore Canyon to the northwest and Deer Canyon to the southeast. The area was abundant in natural resources during prehistoric times because it was located in woodland and coastal habitat zones. Due to these environmental factors, the area and surrounding mountains were immensely utilized by Native Americans. The Chumash Indians occupied the California coastline from San Luis Obispo to Malibu and the project’s Area of Potential Effect (APE) is specifically located in the area occupied by the Ventureño Chumash. The Chumash territory boasted a high indigenous population with multiple villages crosscutting variable ecological zones, exploiting the abundant terrestrial mammals, seeds, and shellfish the area had to offer the hunter-gatherer-fisher populations.

Contact between Spanish explorers and the Chumash Indians was significant in the mid to late 1700’s when Father Juan Crespi, Father Junipero Serra, and Father Francisco Palou became the founding fathers of Alta California’s missions. The closest mission to the project site is Mission San Buenaventura, located 32 miles northwest of the APE. The Chumash Indians were used as agriculture and cattle laborers for the mission. After the mission system, the establishment of the rancho land grant system occurred, in which Alta California’s vast lands were divided and given to Mexican applicants.

Through this system, Rancho Guadalasca was formed and located in the Santa Monica Mountains about 0.4 miles north of the project site. Rancho Topanga Malibu Sequit was established 3 miles southeast of the project and remained under private ownership until 1925 when Rhonda May Rindge lost a lawsuit against the State of California, in which the judge granted the Department of Highways the right-of-way to construct the Pacific Coast Highway through Rindge’s property. The Pacific Coast Highway eventually extended through the project area, connecting southern California to northern Ventura County.

Studies and Methodologies
The APE delineates all the areas associated with the construction of the proposed secant walls. The APE encompasses the maximum extent of all possible project impacts, which was established to be approximately 12 acres from PM 3.63 to PM 4.35. The project impacts include: proposed locations of the secant walls, possible staging areas along the shoulders to the north and south of the travelled way, locations of the two temporary construction easements, relocation areas for the five existing power poles, and areas where the temporary construction signs may be placed.

The APE is used as the project study area in the Historic Property Survey Report (HPSR) and Archaeological Survey Report (ASR) for records searches, field surveys, and Native American consultation. The HPSR is a summary document used for consultation and decision-making for historic,
architectural, or archaeological resources. The ASR is a technical study report that analyzes the archaeological resources in the APE and is used to support the decision in the HPSR.

In order to identify whether the APE may contain the presence of Native American sacred sites, a request for a Sacred Lands File search was made to the Native American Heritage Commission (NAHC). The search indicated that no Native American sacred sites were found within the APE, but the NAHC recommended consulting with six individuals that may have knowledge of cultural resources in or close to the project’s APE. The following Native American Tribes, Groups and Individuals were contacted: 4 representatives from the Barbareno/Ventureno Band of Mission Indians, Chumash; 1 representative from the Santa Ynez Band of Chumash Indians; and 1 representative from the Coastal Band of the Chumash Nation.

In addition to the request for a Sacred Lands File search and the invitation to the abovementioned representatives, Caltrans inquired with the archaeologist for the Angeles and Channel Coast Districts from California State Parks about archaeological sensitivity in the Sycamore Cove Beach area. The archaeologist stated there are no recorded sites in the Sycamore Cove Beach, though scattered shell had been observed. The scattered shell is believed to have been redeposited from floods of past mud slides and stems from a nearby site, rather than Sycamore Cove Beach itself because the scattered shell was located in a manufactured berm between the highway and park entrance.

Identification of historic properties within the APE was evaluated using the Caltrans Cultural Resources Database (CCRD). The CCRD is used to review prehistoric and historical archaeological sites, historic-era built environment, and cultural surveys and Caltrans technical reports. In addition to the extensive database, the following additional sources were consulted as part of the records search:

- National Register of Historic Places (NRHP)
- National Historic Landmark (NHL)
- California Register of Historical Resources (CRHR)
- California Historical Landmarks (CHL)
- Department of Parks and Recreation (DPR) Series 523 Forms
- Caltrans Historic Bridge Inventory List
- Historic United States Geological Survey (USGS) Topographic Quadrangle Maps
- Regional historic maps of Los Angeles County
- Caltrans Historical Architectural Survey Report for Big Sycamore Maintenance Station and Las Flores Maintenance Station (Sheid 1993)
- General Land Office (GLO) Land Patents
- General Land Office (GLO) Historic Survey Plats
- Angeles and Channel Coast District Archaeologist correspondence, California State Parks

The consultation of the above-mentioned databases and sources determined there are no historic, architectural, or archaeological resources requiring evaluation located within the APE. Therefore, the HPSR reports a finding of No Historic Properties Affected for the proposed project.

An archaeological survey of the project’s APE was also conducted on October 3, 2017. The field visit surveyed the 12 acres encompassing the right-of-way, as well as the temporary construction easement. The survey did not show any evidence of archaeological resources within the project’s APE and supports the findings made in the HPSR.


2.7.3 Environmental Consequences
Alternatives 1 and 2 – Build Alternatives
No historic, architectural, or archaeological resources are located within the APE. Therefore, either build alternative would not have an impact to sensitive cultural resources. However, encountering cultural materials is always a possibility when undergoing excavation. The project feature CUL-1 will ensure that should any cultural materials be revealed during construction, Caltrans will respect the discovered materials responsibly by halting construction until a qualified archaeologist can assess the find.

CUL-1 If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

Additionally, should human remains be found during construction, Caltrans will adhere to California laws requiring construction activities to be halted so that the County Coroner can be contacted. Also, because this area was used heavily by Native Americans in the past, the NAHC would be contacted if the County Coroner suspects the remains are Native American. Further details on this project feature is described below in CUL-2.

CUL-2 If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Caltrans District 7 Environmental Branch so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Alternatives 3 – No Build Alternative
The proposed ground disturbing actions will not be constructed in the No Build Alternative. The project area will remain at current existing conditions and no impacts to cultural resources would occur.

2.7.4 Avoidance, Minimization, and/or Mitigation Measures
Alternatives 1 and 2 – Build Alternatives
No avoidance, minimization, and/or mitigation measures would be required.

Alternative 3 – No Build Alternative
No avoidance, minimization, and/or mitigation measures would be required.

PHYSICAL ENVIRONMENT

2.8 Hydrology and Floodplain
2.8.1 Regulatory Setting
Executive Order (EO) 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative.
The Federal Highway Administration (FHWA) requirements for compliance are outlined in 23 Code of Federal Regulations (CFR) 650 Subpart A.

To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

2.8.2 Affected Environment

A Location Hydraulic Study was prepared on July 17, 2018 and found no encroachment or impacts to the floodplain. As a result of that finding, a Floodplain Evaluation Report Summary was prepared. Both studies were produced by Caltrans Office of Hydraulics and Stormwater Design. Evaluation is required when projects are anticipated to encroach on a 100-year base floodplain.

The Federal Emergency Management Agency (FEMA) provides information on flood hazards and frequency for cities and counties, based on its Flood Insurance Rate Maps (FIRMs). A FIRM is the official map of a community for which FEMA has delineated Special Flood Hazard Areas (SFHAs). SFHAs are defined as an area that will be inundated by the flood event having a 1% chance of being equaled or exceeded in any given year. The 1% annual change flood is also referred to as the base flood or 100-year flood. Due to their vulnerability, SFHAs must enforce the National Flood Insurance Program’s floodplain management regulations and where mandatory purchase of flood insurance applies. Figure 2-9 depicts the flood zone map of the project area relative to the base 100-year floodplain.
Figure 2-9: The project location shown in FIRM, provided by FEMA. Zone VE is shown as a SFHA and Zone X is not shown as a SFHA.
The SFHAs shown in the FIRM in Figure 2-9 are found in Zone VE. The base flood elevation\(^8\) of this zone is 22 feet and is located adjacent to the ocean. Zone VE represents areas subject to inundation by 1% annual chance flood event with additional hazards due to storm induced velocity wave action. Zone X is also shown in the FIRM but is found in the mountain region and represents an area of minimal flood hazard. The proposed project is located within Zone X and is not a SFHA. Flood insurance is also not necessary within Zone X because it is above the 500-year flood level, thus considered an area at minimal flood risk.

2.8.3 Environmental Consequences
Alternatives 1 and 2 – Build Alternatives
The proposed project is located outside of the base floodplain and will not constitute a significant floodplain encroachment. The project area is prone to mountain runoff during rain events, but the constructed secant walls themselves would have a negligible effect on hydraulic changes and would not increase runoff volume. During construction, a debris blanket with slit fencing will be used to reduce debris from rolling off the slope and into the ocean. This will help preserve the natural and beneficial floodplain values, and protect the water quality of the runoff.

Alternatives 3 – No Build Alternative
The No Build Alternative would not alter or modify the existing environment. No soil disturbance or increase in impervious areas would occur. Therefore, it would present no potential impacts in terms of hydrology and floodplain encroachment.

2.8.4 Avoidance, Minimization, and/or Mitigation Measures
Alternatives 1 and 2 – Build Alternatives
Minimization Measure: A debris blanket BMP would be installed over the slope during construction to reduce debris impacts on runoff and the ocean. The debris blanket is an effort to contain the soil in the slope and surrounding area, in place.

Alternatives 3 – No Build Alternative
No avoidance, minimization, and/or mitigation measures would be required.

2.9 Water Quality and Storm Water Runoff
2.9.1 Regulatory Setting
Federal Requirements: Clean Water Act
In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source\(^9\) unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

8 Base flood elevation is the elevation to which floodwater is anticipated to rise during a “100-year flood” or a flood with a 1% chance of occurring any given year.
9 A point source is any discrete conveyance such as a pipe or a man-made ditch.
• Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.

• Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

• Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).

• Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE’s Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency’s (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4.

State Requirements: Porter-Cologne Water Quality Control Act
California’s Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a “Report of Waste Discharge” for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters

10 The U.S. EPA defines “effluent” as “wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall.”
of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of “waste” as defined, and this definition is broader than the CWA definition of “pollutant.” Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards
The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System (NPDES) Program
Municipal Separate Storm Sewer Systems (MS4)
Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The SWRCB has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans’ MS4 permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted. Caltrans’ MS4 Permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0077-DWQ (effective July 1, 2014) and Order No. 2015-0036-EXEC (effective April 7, 2015) has three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (see below);
2. Caltrans must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.
To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

**Construction General Permit**

Construction General Permit, Order No. 2009-2009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with Caltrans’ SWMP and Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with DSA less than one acre.

**Section 401 Permitting**

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefitting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.
2.9.2 AFFECTED ENVIRONMENT
The following discussion regarding water quality and storm water runoff was excerpted from the Storm Water Data Report – Long Form prepared by Caltrans Office of Design (2018).

The proposed project is located within the Ventura Coastal Stream Watershed and under the jurisdiction of the Los Angeles Regional Water Quality Control Board. Oxnard is the only sub watershed of the 4 coastal sub watersheds grouped under the Miscellaneous Ventura Coastal Watersheds that has an established TMDL. The closest stream to the project area is Big Sycamore Creek found at approximately PM 4.5, located just north of the project site. However, no pollutant listed on 303(d) water bodies are within the project limits.

2.9.3 ENVIRONMENTAL CONSEQUENCES
Alternatives 1 and 2 – Build Alternatives
The total DSA is calculated by adding the exposed dirt areas impacted by workers and equipment. The DSA for both build alternatives includes construction of the 2 secant walls (including concrete barrier for wall stability) and roadway paving of the northbound shoulder for traffic management during construction. The amount of DSA that would result from either build alternative is 2 acres.

The proposed project would also result in a small amount of new impervious surfaces due to the proposed secant walls and northbound shoulder paving. The estimated net new impervious (NNI) surfaces is 0.2 acre.

Although 2 acres of DSA is required and would result in 0.2 acre of impervious surface, neither build alternative is expected to increase the volume, velocity, or sediment load of downstream flow nor affect the downstream channel stability. The additional impervious surface is expected to be minimal and not a significant impact. Despite the project area lacking in a waterbody considered a 303(d) waterbody, the following project features would be proposed to reduce impacts from the DSA to the surrounding rural area:

WQ-1 To reduce potential contaminated or sediment-containing runoff from polluting the nearby environment, design BMPs and temporary construction BMPs will be implemented. The types and locations of the design BMPs will be determined in the design plans in the final design phase. The types and locations of the temporary construction BMPs will be described in the Stormwater Pollution Control Plan prior to the start of construction activities.

Alternatives 3 – No Build Alternative
If the proposed project was not to be built, there would be no alterations or improvements to the existing environment. No disturbance of soil would be proposed or increase in impervious areas. Thus, there would be no impacts related to water quality or storm water runoff.

2.9.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES
Alternatives 1 and 2 – Build Alternatives
No avoidance, minimization, and/or mitigation measures would be required.

Alternatives 3 – No Build Alternative
No avoidance, minimization, and/or mitigation measures would be required.
2.10 Geology and Soils

2.10.1 Regulatory Setting
For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using Caltrans’ Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge’s category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities.

2.10.2 Affected Environment
The discussion below was presented in the Preliminary Foundation Report prepared by the Caltrans Office of Geotechnical Design South on May 29, 2018 for this project. The recommendations in the report are based on reviews of as-built plans and site geologic information, results of field investigation and laboratory tests, and preliminary General and Foundation Plans prepared by Caltrans Structure Design.

Geotechnical Borings Drilling
A site field investigation to conduct geotechnical borings drilling was initiated in early November 2017 and completed in mid-December 2017. The geotechnical borings were drilled at 6 locations with depths ranging from 64 feet below surface (BGS) to 120 feet BGS. The locations were based on topography, under and above ground utilities, and possible detour routes to keep the highway open to the traveling public (Figure 2-10). The boring locations were also selected to inform Caltrans Design on the strength and properties of the foundation for the proposed structures.
Figure 2-10: Approximate borehole locations for geotechnical borings. The shallow boring RC17106B is not mapped but is located at very close proximity to RC17106A.

The intent of the drillings was to extract a sample of soil within the project area, then conduct testing on the sample to understand its physical characteristics and composition. The boreholes were drilled and logged following the Caltrans Soil and Rock Logging, Classification, and Presentation Manual (2010). The soil and rock samples were sent for laboratory testing to determine corrosion, unit weights, specific gravity, and unconfined compressive strength for rock specimens. The borehole location at RC17106A was planned for excavation but due to boulders and cobbles, Caltrans Geotechnical Design was unable to advanced further underground. As a result, the location at RC 1706B was attempted but crews were faced with similar issues. Finally, the location at RC17106A was found suitable to serve as a borehole. Records of the shallow borings is shown in Table 2.4 along with the depths of borehole and groundwater for all other boreholes that was discovered due to drilling.
Table 2.4 Logistics from Geotechnical Boring Drilling

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<th>Borehole Number</th>
<th>Borehole Top Elevation (feet)</th>
<th>Total Depth of Borehole (feet)</th>
<th>Depth of Groundwater (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC-17-101</td>
<td>37.94</td>
<td>115</td>
<td>32.40</td>
</tr>
<tr>
<td>RC-17-103</td>
<td>40.07</td>
<td>64.5</td>
<td>36.20</td>
</tr>
<tr>
<td>RC-17-102</td>
<td>41.55</td>
<td>92.4</td>
<td>39.60</td>
</tr>
<tr>
<td>RC-17-106C</td>
<td>49.78</td>
<td>85</td>
<td>48.00</td>
</tr>
<tr>
<td>RC-17-106B</td>
<td>50.38</td>
<td>21.5</td>
<td>Not measured</td>
</tr>
<tr>
<td>RC-17-106A</td>
<td>50.62</td>
<td>25.5</td>
<td>Not measured</td>
</tr>
<tr>
<td>RC-17-105</td>
<td>57.81</td>
<td>120</td>
<td>54.20</td>
</tr>
<tr>
<td>RC-17-104</td>
<td>59.16</td>
<td>110</td>
<td>34.80</td>
</tr>
</tbody>
</table>

**Geologic Setting and Topography**
The project is located in the coastal margin where the Santa Monica Mountains meet the Pacific Ocean. The Santa Monica Mountains are a low-rugged, west trending high-relief mountain range that are approximately 50 miles long and 10 miles wide. The Santa Monica Mountain range is the youngest range and lowest in elevation of the series of mountain ranges that comprise the Transverse Range Geomorphic Province. The mountain range is bounded by the Pacific Ocean to the south, the Los Angeles Basin to the east, the San Fernando and Conejo Valleys to the north, and the Oxnard Plain to the west. The natural slopes within the project vicinity exhibit complex profiles of convex and concave upward slopes with interspersed simple planar slopes. The slopes by the ocean have been shaped by erosive action of the ocean and some slopes have manifested localized cliffs with some overhang.

Extending from these mountain ranges within the project vicinity, are branched and anastomosing tributary drainage patterns that feed into Big Sycamore Canyon Creek. During rainstorms, water runs off the mountain through young, short streams and feeds into Big Sycamore Canyon Creek, which is one of the main drainage courses in the Santa Monica Mountains. This channel is southward trending, deeply indented, low gradient and crosses beneath the highway just adjacent to the project area, at Big Sycamore Creek Bridge.

The high-relief rugged mountains in this terrain abruptly change to the low-relief, gently sloping continental shelf at the coastline (Figure 2-11). The continental shelf at this location is deeply formed by steep-sided submarine canyons that abut the coastline, according to literature and aerial images. The dendritic pattern of the continental shelf corresponds to natural drainage courses emanating from the Santa Monica Mountains. Therefore, the water running from the mountains is directly imprinting the continental slope at this location and the ranges are closely linked to the formation of the underwater submarine canyons. These canyons imply that high relief slopes may occur beneath the water adjacent to the project.
Seismic Hazards
The Santa Monica Mountains lie within terrain that is bounded by the following faults: the Garlock Fault Zone to the north, San Andreas Fault Zone to the west, Raymond Fault Zone to the southeast, and Malibu Coast Fault to the south. This fault bounded terrain is undergoing active compression due to a straining bend, known as the Big Bend, where the Garlock Fault offsets the San Andreas Fault to the west. As a result, the project area is undergoing northwest to south east shortening which is accommodated by the formation of westerly trending folds and faults. This active folding and faulting continues to uplift the Santa Monica Mountains. The region is seismically active.

Geologic Rocks
Bedrock within the project area is comprised of highly deformed and faulted early Miocene to Pliocene aged sedimentary rock and volcanic rock of the Lower Topanga Canyon formation. The sedimentary rock is comprised of very thinly to thickly interbedded fine-grained sandstones, siltstones, mudstones, shales, and slates. They were formed by diagenesis of thick deposits of organic rich, fine grained sand, silts, and clays originally deposited in deep water on the Continental Shelf. The materials occurring in the subsurface are characterized as: non-engineered fill, beach and dune sand, alluvium, sedimentary rock, and igneous rock.

2.10.3 Environmental Consequences
Alternatives 1 and 2 – Build Alternatives
The secant walls for both build alternatives will be constructed by overlapping drilled piles to form a continuous wall. The piles consist of primary piles and secondary piles. The primary piles with low strength concrete are unreinforced concrete piles and designed as lagging between the secondary piles. The secondary piles are reinforced concrete piles designed to provide flexural and shear resistance in the vertical direction. The piles for the secant walls will be embedded into bedrock, therefore global stability for static and seismic conditions are not a concern. In order to strengthen the structural
integrity of the secant walls, the following information acquired from the geotechnical boring drilling sample testing will be used to advise the Caltrans Design team of the proposed secant walls for both build alternatives. Big Sycamore Canyon Creek does not extend into the project limits and will not be impacted.

Secant Pile Wall: Either rebar cage, steel beam, or steel pipe/casing can be used as the reinforcement. If steel beam is used, the wall will be designed based on the resistance provided solely by the steel beam. Should pipe/casing be used however, concrete inside the pipe/casing may be considered in the design, and constrained concrete properties may be used. The use of steel beam as the reinforcement for secant pile wall does not require concrete integrity tests during construction, and is preferred to rebar case because of the high potential of cave-in during drilling and concrete placement.

Hard Drilling: The Log of Test Borings with digital photo log of rock cores and photos of in-situ rock, should be carefully reviewed before selecting drilling methods and equipment due to the layers of gravel, cobbles, and boulders with beach sand above bedrock.

Wall Alignment: The wall alignment should be located 2 times the pile diameter from the edge of the slope to facilitate construction.

Design Wall Height: The design wall height should be determined based on the scour/erosion elevation from the recommendations in the hydraulics study.

Pile Diameter and Pile Spacing: The pile diameters of 2-4 feet are typically employed for 50-100 feet deep shoring system. Secondary piles are spaced at less than pile diameter (typically 0.8 times pile diameter), and smaller pile diameter will provide smaller spacing with increased number of piles. The pile diameter should be determined based on required stiffness and strength of the secant pile walls.

Pile Length: Pile length depends on elevation of the bedrock and scour/erosion. The length of the primary pile and secondary pile is typically the same. For this project, the primary pile length may be shorter than the secondary pile length, but the primary pile tip should be lower than one pile diameter into bedrock or scour/erosion elevation, whichever is lower. The length of secondary piles should be determined based on the method described in AASHTO Design Specification.

Alternatives 2 – Ground Anchor Option
In addition to the recommendations made above, the findings from the geotechnical borings drilling also made some recommendations specifically for Alternative 2 – Ground Anchor Option. Alternative 2 – Ground Anchor Option would reduce the size and length of the pile beam and control deflection of the wall. The typical horizontal spacing of the ground anchors vary from 5-10 feet with a minimum spacing of 4 feet, and should be determined based on required anchor loads and capacities. The inclination of the ground anchor can be installed between 10-45 degrees, but 15-30 degrees is more common. The unbonded length of the ground anchor will be determined when the location of the ground anchor, inclination of the ground anchor, and design wall height is known because the length is dependent on these factors.

Alternatives 3 – No Build Alternative
No changes to the geologic setting within the project area would occur under the No Build Alternatives. Therefore no recommendations for structural design is needed since no construction would take place. The area would not be modified in any way and no impacts to the environment would occur.
2.10.4 Avoidance, Minimization, and/or Mitigation Measures

Alternatives 1 and 2 – Build Alternatives
No avoidance, minimization, and/or mitigation measures would be required.

Alternatives 3 – No Build Alternative
No avoidance, minimization, and/or mitigation measures would be required.

2.11 Hazardous Waste/Materials

2.11.1 Regulatory Setting
Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Resource Conservation and Recovery Act (RCRA) of 1976. The purpose of CERCLA, often referred to as “Superfund,” is to identify and cleanup abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 12088, Federal Compliance with Pollution Control Standards, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.
2.11.2 Affected Environment

During the preliminary design phase, a general screening was performed to determine the potential to encounter hazardous waste, hazardous materials, and contamination within the project area. The information presented in this section is based on the *Hazardous Waste Assessment for IS/EA Preparation* (Caltrans Office of Environmental Engineering) prepared in October 2017. However, after informational data was discovered from a Site Investigation Report for Aerially Deposited Lead (ADL) and Asbestos Survey prepared by Stantec on March 30, 2018, a memorandum from Caltrans Office of Environment Engineering was prepared in June 2018 entitled *Hazardous Waste Assessment for PAED* (Project Approval and Environmental Document) to capture those findings and reevaluate the hazardous waste concerns within the project area.

Both assessments screened for potential hazardous waste concerns by project evaluation, Caltrans record review, and oil field maps. The most updated assessment (June 2018) showed the potential for the presence of the following hazardous waste/materials: aerially deposited lead, treated wood waste, existing yellow traffic striping, existing white traffic striping, and electrical equipment. Table 2.5 below summarizes the hazardous waste concerns, as described in the assessment.

<table>
<thead>
<tr>
<th>Hazardous Waste/Materials of Concern</th>
<th>Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerially Deposited Lead</td>
<td>Particulate emissions in engine exhaust contained lead from leaded gasoline which was deposited in unpaved areas adjacent to roadways. Therefore the soil adjacent to roadways and freeways are susceptible to elevated lead and other heavy metals concentrations that exceed the California hazardous waste threshold limits. The ADL and Asbestos Survey prepared on March 30, 2018 showed the unpaved, shallow soils within the project vicinity were found to be non-hazardous with detected concentrations of lead lower than the total threshold limit concentration.</td>
</tr>
<tr>
<td>Treated Wood Waste</td>
<td>The removal of the metal beam guard rails and wood poles, present the opportunity for contamination. The associated wood posts are assumed to be treated with preservation chemicals that protect the wood against insect attack and fungal decay. These chemicals may be hazardous (carcinogenic) and include, but not limited to, arsenic, chromium, copper, creosote, and pentachlorophenol.</td>
</tr>
<tr>
<td>Existing Yellow Traffic Striping</td>
<td>Removal of existing yellow traffic striping may contain hazardous concentrations of lead (Pb) and chromium (Cr) based on the California Hazardous Waste Regulations.</td>
</tr>
</tbody>
</table>
### Existing White Traffic Striping

Residue from removal of white traffic striping will not contain hazardous levels of lead.

### Electrical Equipment

Electrical equipment such as florescent lamps, mercury lamps, ballast, and transformers, may need to be removed for construction. These materials may contain the hazardous material: polychlorinated biphenyl (PCB) and mercury.

### Groundwater

Groundwater is estimated to be within 10 feet bgs along PCH. Based on oil field maps, provided by the Division of Oil, Gas, and Geothermal Resources, no oil or gas wells/fields exist near the project vicinity. A review of the California State Water Resources Control Board (SWRCB) Geotracker database did identify 2 properties located about 800 – 1000 feet northwest of the proposed secant wall at PM 4.2 to be Leaking Underground Storage Tank (LUST) sites. Both sites have received case closure status from the RWQCB Closure Policy that allows contamination to remain in soil and groundwater. This could be an issue if dewatering is needed for the project because of the potential for groundwater contamination.

2.11.3 **Environmental Consequences**

**Alternatives 1 and 2 – Build Alternatives**

There is potential for exposure to the above mentioned hazardous materials during construction for both build alternatives. Removal of features within the project area has the potential to expose workers to TWW, existing yellow traffic striping, existing white traffic striping, and electrical equipment.

Precautions to avoid fully or minimize exposure to each hazardous material will be implemented into project construction. Exposure to contaminants associated with TWW, yellow traffic striping, and electrical equipment can be managed to minimal exposure or full avoidance by adhering to protocols for the removal, handling, and disposal of such materials. Although white traffic striping is non-hazardous, a project specific Lead Compliance Plan (LCP) will be required for removal per Cal-OSHA Title 8 requirements. Similarly, although the soils within the project vicinity are non-hazardous and can be relinquished or disposed of without restriction or regulation, a task-specific LCP will be required to prevent or minimize worker exposure to lead when handling soil that contains even minor traces of lead. Potential impacts will be minimized and hazardous waste regulations will be abided with the incorporation of the project features HAZ-1 through HAZ-4 described below.

**Aerially Deposited Lead Contaminated Soil**

**HAZ-1** A task-specific LCP to prevent or minimize worker exposure to lead while handling soil containing lead will be required. The LCP should be prepared, reviewed, approved, stamped, and signed by a Certified Industrial Hygienist (CIH).
Treated Wood Waste

HAZ-2 Removal and disposal of metal beam guardrail wood posts shall be managed under CCR Title 22, Division 4.5, Chapter 34, which specifies guidelines for storage, accumulation, shipment/transport, and disposal at approved treated wood facilities. Project funding would be allocated for the management (including handling, storing, transportation, and disposal) of TWW and the Board of Equalization fee.

Yellow and White Traffic Striping

HAZ-3 A project-specific Lead Compliance Plan and Debris Containment and Disposal Work Plan will be prepared to address the removal, containment, storage, sampling, and disposal of yellow/white thermoplastic and lead-based painted traffic stripe and/or pavement markings, and to prevent or minimize worker exposure to lead while handling the debris/residue (California Code of Regulations [CCR], Title 8, Section 1532.1, “Lead,” and California Occupational Safety and Health Administration [Cal/OSHA] Construction Safety Order).

Electrical Equipment

HAZ-4 Prior to starting construction, the contractor shall inspect the existing electrical components to determine if any hazardous materials are present. All electrical equipment requiring disposal shall be handled and transported to an appropriate permitted electrical disposal facility as required by local and state regulatory procedures.

Construction of the secant walls are likely to encounter groundwater. If dewatering is required for project construction, a site investigation of groundwater will be needed in the final design phase to determine water quality because of possible groundwater contamination. The groundwater site investigation would determine the extent of the groundwater contamination, which is needed for consideration of discharge/disposal options.

HAZ-5 If dewatering of groundwater is required, a site investigation of groundwater will be conducted to determine water quality for discharge/disposal options. As a result of the findings from the site investigation, any proposed construction provisions necessary for dewatering will be included in the final design package prior to project bid.

Alternatives 3 – No Build Alternative

The No Build Alternative would not construct any of the proposed slope restoration work, therefore the project area would not experience permanent impacts in relation to hazardous waste. The project area would remain at current standards because there would be no disturbance of soils, with no addition of hazardous materials but also with no hazardous materials to be removed off-site, such as ADL soil. Although ADL is continuously deposited on the roadway through regular traffic, roadway projects that involve excavation of soils serve as an opportunity to remove some ADL soils off-site and/or use some of the soil within the project area when permissible. At this project location however, ADL also has the potential to be removed from the right-of-way by washing down the slope into the ocean or adjacent to the ocean, due to precipitation events or heavy storms and little infiltration. However this is not ideal for water quality purposes, but a possibility due to the topography of the area.

2.11.4 Avoidance, Minimization, and/or Mitigation Measures

Alternatives 1 and 2 – Build Alternatives

No avoidance, minimization, and/or mitigation measures would be required.
Alternative 3 – No Build Alternative
No avoidance, minimization, and/or mitigation measures would be required.

2.12 Air Quality

2.12.1 Regulatory Setting
The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO2), ozone (O3), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM10) and particles of 2.5 micrometers and smaller (PM2.5)—and sulfur dioxide (SO2). In addition, national and state standards exist for lead (PB), and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel “Conformity” requirement under the FCAA also applies.

Conformity
The conformity requirement is based on FCAA Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan (SIP) for attaining the NAAQS. “Transportation Conformity” applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 Code of Federal Regulations (CFR) 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO2), ozone (O3), particulate matter (PM10 and PM2.5), and in some areas (although not in California), sulfur dioxide (SO2). California has nonattainment or maintenance areas for all of these transportation-related “criteria pollutants” except SO2 and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to
determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept and scope and the “open-to-traffic” schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming RTP and TIP; the project has a design concept and scope\textsuperscript{11} that has not changed significantly from those in the RTP and TIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in PM areas, the project complies with any control measures in the SIP. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

\textbf{2.12.2 Affected Environment}

The following air quality discussion was obtained by the project specific \textit{Air Quality Review Memorandum} prepared by Caltrans Office of Environmental Engineering, Air Quality unit.

\textit{Local Climate and Meteorological Condition}

The proposed project is within the boundary of the South Central Coast Air Basin (SCCAB) in the Ventura County Air Pollution Control District. The SCCAB is comprised of San Luis Obispo, Santa Barbara, and Ventura Counties. The SCCAB’s diverse topography is characterized by mountain ranges to the north, two major river valleys (the Santa Clara, which trends east-west, and the Ventura, which trends roughly north-south), and the Oxnard Plain to the south and west. Figure 2-12 shows the topography for Ventura County, which is one of the counties that make up SCCAB\textsuperscript{12}.

\textsuperscript{11} “Design concept” means the type of facility that is proposed, such as a freeway or arterial highway. “Design scope” refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project.

The unique topography and meteorological conditions within Ventura County, heavily influence the dispersion of air pollutants. The air within Ventura County is often unable to move freely without barriers, which can be an issue for dispersion of emissions. Mountain ranges act as physical barriers that inhibit horizontal dispersion of air pollutants and can keep air stagnant within valleys. Temperature patterns can limit pollutants from rising and dispersing away from the County. Cool air is denser than warm air, therefore when a layer of cool air is trapped under a layer of warm air, the cool layer serves as a “ceiling” that prevents air pollutants from rising to disperse above the dense cool layer. This effect is known as inversion and is common to California’s coastal areas. Inversion can affect vertical mixing and dispersion of pollutants. Ventura County commonly experiences a land/sea breeze that flows between the Pacific Ocean and land mass. The land/sea breeze can recirculate air contaminants that flow away from the County during the early morning through differential air pressure and bring the pollutants back into the County in the afternoon when the land mass has been warmed by the sun.
This recirculation system causes pollutants to remain in the area for several days and occurs most predominantly from May to October. Air temperatures are usually higher and sunlight more intense during these months, which contributes to increased levels of ground-level O₃. Based on 1981-2010 data from the Oxnard meteorological station located about 18 miles north-west of the project site, the average maximum temperature for the area is 74 degrees Fahrenheit (°F) during the months of August and September. This temperature is comparably higher than the average minimum temperature of 46.0 °F during the month of January. Therefore the warm temperature and more intense sunlight during the months of May to October, serves as the ideal environment for emissions from previous days to accumulate and chemically react with new emissions. As a result, ambient air pollution levels increase so often during these 6 months that this period is referred to as the “smog” season (Ventura County Air Pollution District).

**Federal and State Air Quality Attainment Status**

As mentioned above, the proposed project is located within Ventura County, which is part of the SCCAB. The project area is in a state and federal attainment area for CO, as well as in a federal attainment area for PM₁₀ and PM₂.5. Attainment area refers to an area that meets or is below the federal threshold for air quality pollutants as established in the NAAQS. Conversely, non-attainment areas are those areas that do not meet, but instead surpass federal thresholds established by NAAQS. Table 2.6 lists the attainment statuses for all criteria pollutants for Ventura County, as well as health effects and typical sources of the pollutants.

Per 40 CFR 93.126 in the Federal Register, Table 2 – Exempt Projects allows certain projects to be exempt from all emissions analysis. Based on the project description, the proposed project is deemed listed in Table 2 under the subtitle “Other” and classification “Repair of damage caused by natural disasters, civil unrest, or terrorist attacks, except projects involving substantial functional, locational, or capacity changes”. Therefore pursuant to 40 CFR 93.126, this proposed project is deemed classified and is exempt from the requirement to determine conformity.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Ozone (O₃)</td>
<td>1 hour</td>
<td>0.09 ppm&lt;sup&gt;15&lt;/sup&gt;</td>
<td>--&lt;sup&gt;16&lt;/sup&gt;</td>
<td>High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic</td>
<td>Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NOx) in the presence of sunlight and heat. Common precursor emitters</td>
<td>Non-attainment</td>
<td>Non-attainment Serious</td>
</tr>
<tr>
<td></td>
<td>8 hours</td>
<td>0.070 ppm</td>
<td>0.070 ppm</td>
<td>(4th highest in 3 years)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>13</sup> State standards are “not to exceed” or “not to be equaled or exceeded” unless stated otherwise.

<sup>14</sup> Federal standards are “not to exceed more than once a year” or as described above.

<sup>15</sup> ppm = parts per million

<sup>16</sup> Prior to 6/2005, the 1-hour ozone NAAQS was 0.12 ppm. Emission budgets for 1-hour ozone are still be in use in some areas where 8-hour ozone emission budgets have not been developed, such as the S.F. Bay Area.
<table>
<thead>
<tr>
<th>Component</th>
<th>Standard</th>
<th>Description</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Carbon Monoxide (CO)</strong></td>
<td>1 hour: 20 ppm, 35 ppm</td>
<td>Interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.</td>
<td>Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.</td>
</tr>
<tr>
<td></td>
<td>8 hours: 9.0 ppm, 9 ppm</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>8 hours (Lake Tahoe): 6 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Respirable Particulate Matter (PM₁₀)</strong></td>
<td>24 hours: 50 µg/m³ (expected number of days above standard &lt; or equal to 1)</td>
<td>Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic &amp; other aerosol and solid compounds are part of PM₁₀.</td>
<td>Dust- and fume-producing industrial and agricultural operations; combustion smoke &amp; vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.</td>
</tr>
<tr>
<td></td>
<td>Annual: 20 µg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fine Particulate Matter (PM₂.₅)</strong></td>
<td>24 hours: 35 µg/m³</td>
<td>Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the PM₂.₅ size range. Many toxic &amp; other aerosol and solid compounds are part of PM₂.₅.</td>
<td>Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.</td>
</tr>
<tr>
<td></td>
<td>Annual: 12 µg/m³</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>24 hours (conformity process)</td>
<td>65 µg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Secondary Standard (annual; also for conformity process)</td>
<td>15 µg/m³ (98th percentile over 3 years)</td>
<td></td>
</tr>
</tbody>
</table>

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17 Annual PM₁₀ NAAQS revoked October 2006; was 50 µg/m³. 24-hr. PM₂.₅ NAAQS tightened October 2006; was 65 µg/m³. Annual PM₂.₅ NAAQS tightened from 15 µg/m³ to 12 µg/m³ December 2012 and secondary annual standard set at 15 µg/m³; 18 µg/m³ = micrograms per cubic meter 19 The 65 µg/m³ PM₂.₅ (24-hr) NAAQS was not revoked when the 35 µg/m³ NAAQS was promulgated in 2006. The 15 µg/m³ annual PM₂.₅ standard was not revoked when the 12 µg/m³ standard was promulgated in 2012. The 0.08 ppm 1997 ozone standard is revoked FOR CONFORMITY PURPOSES ONLY when area designations for the 2008 0.75 ppm standard become effective for conformity use (7/20/2013). Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for newer NAAQS are found adequate, SIP amendments for the newer NAAQS are approved with an emission budget, EPA specifically revokes conformity requirements for an older standard, or the area becomes attainment/unclassified. SIP-approved emission budgets remain in force indefinitely unless explicitly replaced or eliminated by a subsequent approved SIP amendment. During the “Interim” period prior to availability of emission budgets, conformity tests may include some combination of build vs. no build, build vs. baseline, or compliance with prior emission budgets for the same pollutant.
### Nitrogen Dioxide (NO₂)

<table>
<thead>
<tr>
<th></th>
<th>1 hour</th>
<th></th>
<th>0.18 ppm</th>
<th>0.100 ppm&lt;sup&gt;20&lt;/sup&gt;</th>
<th>Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain &amp; nitrate contamination of stormwater. Part of the “NOx” group of ozone precursors.</th>
<th>Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.</th>
<th>Attainment</th>
<th>Attainment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Annual</td>
<td></td>
<td>0.030 ppm</td>
<td>0.053 ppm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sulfur Dioxide (SO₂)

<table>
<thead>
<tr>
<th></th>
<th>1 hour</th>
<th></th>
<th>0.25 ppm</th>
<th>0.075 ppm&lt;sup&gt;21&lt;/sup&gt; (99&lt;sup&gt;th&lt;/sup&gt; percentile over 3 years)</th>
<th>Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.</th>
<th>Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.</th>
<th>Attainment</th>
<th>Attainment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 hours</td>
<td></td>
<td>---</td>
<td>0.5 ppm&lt;sup&gt;22&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>24 hours</td>
<td></td>
<td>0.04 ppm</td>
<td>0.14 ppm (for certain areas)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td></td>
<td>---</td>
<td>0.030 ppm (for certain areas)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Lead (Pb)<sup>23</sup>

<table>
<thead>
<tr>
<th></th>
<th>Monthly</th>
<th></th>
<th>1.5 μg/m&lt;sup&gt;3&lt;/sup&gt;</th>
<th>---</th>
<th>Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.</th>
<th>Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.</th>
<th>Attainment</th>
<th>Attainment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calendar Quarter</td>
<td>---</td>
<td></td>
<td>1.5 μg/m&lt;sup&gt;3&lt;/sup&gt; (for certain areas)</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rolling 3-month average</td>
<td>---</td>
<td></td>
<td>0.15 μg/m&lt;sup&gt;3&lt;/sup&gt;&lt;sup&gt;24&lt;/sup&gt;</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sulfate

<table>
<thead>
<tr>
<th></th>
<th>24 hours</th>
<th></th>
<th>25 μg/m&lt;sup&gt;3&lt;/sup&gt;</th>
<th>---</th>
<th>Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.</th>
<th>Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.</th>
<th>Attainment</th>
<th>N/A</th>
</tr>
</thead>
</table>

### Hydrogen Sulfide (H₂S)

<table>
<thead>
<tr>
<th></th>
<th>1 hour</th>
<th></th>
<th>0.03 ppm</th>
<th>---</th>
<th>Colorless, flammable, poisonous. Respiratory irritant. Neurological</th>
<th>Industrial processes such as: refineries and oil fields, asphalt</th>
<th>Attainment</th>
<th>N/A</th>
</tr>
</thead>
</table>

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<sup>21</sup> EPA finalized a 1-hour SO₂ standard of 75 ppb (parts per billion [thousand million]) in June 2010. Nonattainment areas have not yet been designated as of 9/2012.

<sup>22</sup> Secondary standard, set to protect public welfare rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.

<sup>23</sup> The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM<sub>2.5</sub> and, in larger proportion, PM<sub>10</sub>. Both the ARB and U.S. EPA have identified lead and various organic compounds that are precursors to ozone and PM<sub>2.5</sub> as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

<sup>24</sup> Lead NAAQS are not considered in Transportation Conformity analysis.
2.12.3 Environmental Consequences
Alternatives 1 and 2 – Build Alternatives

As mentioned above, the proposed project is exempt under 40 CFR 93.126 from requiring to determine conformity. Projects exempt pursuant to 40 CFR 93.126 are also not required to undergo project-level air quality analysis per the Transportation Project-Level Carbon Monoxide Protocol (published by Institute of Transportation Studies, University of California, Davis, Revised December 1977). Exempt projects are expected to not have an adverse impact to ambient CO and have a neutral influence on PM$_{10}$ and PM$_{2.5}$ emissions.

In addition, pursuant to the FHWA’s Interim Guidance Update on Mobile Air Toxic Analysis in NEPA documents dated September 30, 2009, projects that are exempt under 40 CFR 93.126 under the Clean Air Act, do not require an analysis of Mobile Source Air Toxics (MSAT). MSAT are 9 primary air toxics identified by US EPA as carcinogenic risks. This project will not cause a change in traffic volumes, vehicle mix, or any other factor that would result in a meaningful increase in MSAT and is exempt from MSAT analysis.

Therefore, since the construction work of the secant walls proposed in Alternatives 1 and 2 qualifies for this exemption, neither build alternative is expected to have impacts to air quality pollutants: CO, PM$_{10}$ and PM$_{2.5}$ emissions, and MSAT. Furthermore, the Environmental Protection Agency (EPA) regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA’s MOVES2014 model forecasts a combined reduction of over 90% in the total annual emissions rate for the priority MSAT from 2010 – 2050 while vehicle-miles of travel are projected to increase by over 45% (*Updated Interim Guidance on MSAT in NEPA Documents, FHWA, October 12, 2016*). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project. Consequently neither build alternative is expected to have air quality impacts of CO, PM10 and PM2.5 emissions, and MSAT.

Asbestos can be released from serpentinite and ultramafic rocks when the rocks are broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health...
hazards. 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. Serpentinite and/or ultramafic rock are known to naturally occur in 44 of California’s 58 counties. While Ventura County is one of the counties listed, only the Catalina Island portion of the county has been found to contain such rocks. The project site and area surrounding the site are not identified to contain serpentinite or ultramafic rock. As a result, no potential impacts from naturally occurring asbestos during project construction is expected to occur.

While unlikely, should naturally occurring asbestos, serpentinite, or ultramafic rock be discovered the following project feature will be implemented:

**AQ-1** If naturally occurring asbestos, serpentinite, or ultramafic rock is discovered during grading operations Section 93105, Title 17 of the California Code of Regulations requires notification to the Ventura County Air Pollution Control District by the next business day and implementation of dust control measures described in Section 93105 (d)(B).

*Construction Emissions*

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and various other construction-related activities. Construction equipment in itself is expected to release emissions, including: CO, NOx, PM10 and PM2.5, volatile organic compounds (VOCs), directly emitted and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NOx and VOCs in the presence of heat and sunlight.

The project is within the boundary of SCCAB and must comply with the SCCAB Dust Implementation Rule 55 to minimize temporary emissions during construction of the project as applicable and appropriate. Although emissions from the construction activities are considered temporary pursuant to 40 CFR 93.123 (c)(5), construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. These activities could temporarily generate enough emissions to be of concern. Therefore an estimation of the construction emissions expected for each build alternative is provided using the latest Sacramento Metropolitan Air Quality Management District’s Road Construction Model version 8.1.0. While the model was developed for Sacramento conditions in terms of fleet emission factors, silt loading, and other modeling assumptions, it is considered adequate for estimating road construction emissions in the SCCAB. Table 2.7 shows the estimated construction emissions for both alternatives and explained on the next page.
Table 2.7 Construction emissions for both build alternatives: Alternative 1 and Alternative 2

<table>
<thead>
<tr>
<th>Emission Estimates</th>
<th>ROG</th>
<th>CO</th>
<th>NOx</th>
<th>PM$_{10}$ (Total)</th>
<th>PM$_{2.5}$ (Total)</th>
<th>CO$_{2e}$</th>
</tr>
</thead>
</table>
| Alternative 1 – Cantilever Option
| Daily Maximum (lbs/day)  | 10.61| 79.03| 120.52| 25.50             | 8.94               | 21,945.73 |
| Total (tons/project)     | 0.95 | 7.29 | 10.53| 2.74              | 0.90               | 1,965.57  |
| Alternative 2 – Ground Anchor Option
| Daily Maximum (lbs/day)  | 13.13| 92.82| 175.49| 29.36             | 10.45              | 81,556.24 |
| Total (tons/project)     | 1.08 | 8.03 | 13.46| 2.94              | 0.98               | 5,142.10  |

ROG = Reactive organic gas, CO = carbon monoxide, NO$_x$ = nitrogen oxides, PM$_{10}$ = total particulate matter of 10 micrometers or smaller, PM$_{2.5}$ = total particulate matter of 2.5 micrometers or smaller, and CO$_{2e}$ = carbon dioxide equivalent. Note that CO$_{2e}$ is comprised of carbon dioxide (CO$_2$), methane (CH$_4$), and Nitrous Oxide (N$_2$O) GHG emissions.

Both build alternatives are expected to release emissions through construction activities and equipment, as shown above. More excavation is required with Alternative 2 – Ground Anchor Option which will cause more particulates to become airborne and will require more construction equipment to be utilized. As a result, Alternative 2 is found to emit more construction emissions than Alternative 1 – Cantilever Option during construction. Table 2.7 shows that for each pollutant analyzed, Alternative 2 will emit the pollutants at greater concentrations than Alternative 1. These emissions however are common with ordinary construction projects and the project will be in construction for 1 year, which is considered minimal. Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93.123(c)(5)). Measures to reduce construction emissions during the year of construction, will be incorporated into the project features for a less than significant impact to air quality.

An effort to minimize the impacts from construction activities and equipment will be incorporated into the project scope. The following project features will require the General Contractor to abide by:

**AQ-2** In order to minimize dust, the use of watering should be sufficient to confine dust plumes to the project work areas, in addition to covering trucks when hauling dirt. The surface of dirt piles will be stabilized if they are not removed immediately.

**AQ-3** On Caltrans projects, appropriate Caltrans Standard Specifications 10-Dust Control, 14-Air Quality, and 18-Dust Palliative shall be incorporated into project specifications. The resident engineer shall ensure that all construction equipment is properly tuned and maintained.

**AQ-4** Construction equipment idling time will be minimized to 5 minutes, in an effort to save fuel and reduce emissions.

*Alternative 3 – No Build Alternative*

Under the No Build Alternative, existing conditions would remain as is and no air quality impacts would occur.
2.12.4 Avoidance, Minimization, and/or Mitigation Measures

Alternatives 1 and 2 – Build Alternatives
No avoidance, minimization, and/or mitigation measures would be required.

Alternative 3 – No Build Alternative
No avoidance, minimization, and/or mitigation measures would be required.

2.13 Climate Change

Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. FHWA emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter of this document. The CEQA analysis may be used to inform the National Environmental Policy Act (NEPA) determination for the project.

BIOLOGICAL ENVIRONMENT

2.14 Natural Communities

2.14.1 Regulatory Environment
This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species Section 2.18. Wetlands and other waters are also discussed below Section 2.15.

2.14.2 Affected Environment
The following information is presented in the Natural Environment Study (NES) (Caltrans Division of Environmental Planning) prepared on February 2018. The findings in the NES are supported in part by investigations conducted by an in-person general field survey on October 19, 2017 and general drone overview on January 30, 2018. The drone was used to survey habitat conditions within the intertidal zone. In addition to surveys, reviews of literature relevant to biological resources in the project study area and review of biological databases was used to support the findings in the NES. In October 2018 a Natural Environment Study (Amended) was completed to capture changes made after the February 2018 NES was delivered, including: interagency consultation, black abalone surveys, bat surveys, and California grunion surveys.

Database searches of the CDFW’s California Natural Diversity Database (CNDDB), USFWS Information for Planning and Consulting (IPAC) Resource List, and NOAA Fisheries Service West Coast Region California Species list was conducted for the Point Mugu USGS quadrangle on October 1, 2017 and re-reviewed on
August 31, 2018. The natural communities that are classified as critical habitat for an endangered or threatened species or Essential Fish habitat under the Magnuson-Stevens Fishery Conservation and Management Act of 1976 are discussed in Section 2.18 Threatened and Endangered Species. The remaining 4 natural communities revealed in the database search are listed in the following page.

Table 2.8: Natural Communities listed in CDFW’s CNDDB

<table>
<thead>
<tr>
<th>Natural Communities</th>
<th>Common Name</th>
<th>Status</th>
<th>General Habitat Description</th>
<th>Habitat Present/Absent</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Southern Coastal Salt Marsh</td>
<td>S2.1 (Imperiled)</td>
<td>Halophytes adapted to high saline and low oxygen content</td>
<td>Absent</td>
<td>The project impact area does not occur within or adjacent to this natural community</td>
</tr>
<tr>
<td></td>
<td>Southern Sycamore Alder Riparian Woodland</td>
<td>S4 (Apparently Secure)</td>
<td>Upland on rocky slopes. Biotic community alone mesic soil created by small streams</td>
<td>Absent</td>
<td>The project impact area does not occur within or adjacent to this natural community</td>
</tr>
<tr>
<td></td>
<td>Valley Needlegrass Grassland</td>
<td>S3.1 (Vulnerable and very threatened)</td>
<td>Upland herbaceous vegetation in California’s Central Valley</td>
<td>Absent</td>
<td>The project impact area does not occur within or adjacent to this natural community</td>
</tr>
<tr>
<td></td>
<td>Southern Coast Live Oak Riparian Forest</td>
<td>S4 (Apparently Secure)</td>
<td>Uplands, slopes often very steep, raised stream banks &amp; terraces</td>
<td>Absent</td>
<td>The project impact area does not occur within or adjacent to this natural community</td>
</tr>
</tbody>
</table>

The statuses are delineated with a number and letter score that reflect the rarity, threat, and trend factors of the natural community with more weight given to the rarity factor. S2= imperiled in the state because of rarity due to a restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from the nation or state. S3= vulnerable in the state due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation. S4= uncommon but not rare, some cause for long-term concern due to declines or other factors. Older ranks may contain a decimal “threat” rank, such as “.1” which indicates very threatened status.25

As shown in Table 2.8, the listed natural communities were not found present within the project impact area. The natural communities are not expected to be impacted by any of the proposed alternatives because they do not occur within the project area.

25 https://map.dfg.ca.gov/rarefind/view/RF_FieldDescriptions.htm
California Essential Habitat Connectivity Mapping
CDFW and Caltrans commissioned a team of consultants to develop the California Essential Habitat Connectivity (CEHC) Project to produce a statewide assessment of essential habitat connectivity. The team used data sets, spatial analysis, and modeling techniques to identify large expansions of intact habitat or natural landscape. With this data, the team modeled linkages between these spaces so they can be maintained and serve as corridors for wildlife. From the completed Project, a statewide wildlife habitat connectivity map was created in 2010.

The project location was examined within the CEHC map and found to exist within an area that is considered a critical linkage. The project however, would not disrupt habitat connectivity within the body of the classified CEHC because the project impact area occurs at the very edge of the CEHC (Figure 2-13). The classified CEHC is a large natural landscape block that encompasses the mountains within the project area. The project area lies at the very edge of this natural landscape block and would not prevent wildlife movement within the CEHC. None of the alternatives would serve as an obstacle for movement within the corridor.

Figure 2-13: California Essential Habitat Connectivity map with proposed project limits

Ventura County Coastal Area Plan
The Coastal Area Plan, as part of the Ventura County General Plan, shows numerous environmentally sensitive habitat areas (ESHA) in the South Coast sub-area of the county where the proposed project is located (FIGURE). The Coastal Act in Section 30107.5 defines an “environmentally sensitive area” as: “Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments”. Tidepools are distinguished as ESHA in Ventura County’s Coastal Area Plan (2017) and ESHA Goal 2 in the plan is “to support the State in the protection of the tidepools.” According to Figure 2-13, tidepools are mapped adjacent to where the 2 secant walls are proposed. Tidepools exist in intertidal zones and serve as habitat for an often-rich variety of organisms.

A coordination site meeting was held on March 15, 2018 for which Ventura County Planning Division attended. The Ventura County Planning Division noted that although the Coastal Area Plan depicts tide pools adjacent to the proposed secant walls, tide pools are not a concern in this area. The map was created with outdated data and does not depict accurate information. An updated map from the Ventura County Planning Division has not yet been made available. Therefore, per the direction of the Ventura County Planning Division, ESHA is not a concern within the project area because it is not considered present.

2.14.3 Environmental Consequences
Alternatives 1 and 2 – Build Alternatives
No ESHA was found to occur within or adjacent to the project area. Thus, either build alternative would not impact any ESHA.

Alternative 3 – No Build Alternative
The No Build Alternative would maintain the area at current standards, with no changes to any habitat within the project area.

2.14.4 Avoidance, Minimization, and/or Mitigation Measures
Alternatives 1 and 2 – Build Alternatives
No avoidance, minimization, and/or mitigation measures would be required.

Alternative 3 – No Build Alternative
No avoidance, minimization, and/or mitigation measures would be required.

2.15 Wetlands and Other Waters
2.15.1 Regulatory Environment
Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland
hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation’s waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE’s Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA’s Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a “least environmentally damaging practicable alternative” (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Finding must be made.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the RWQCBs and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements
(WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see Section 2.9 Water Quality and Stormwater Runoff for more details.

Under 14 CCR 13577 Criteria for Permit and Appeal Jurisdiction Boundary Determinations, the precise boundaries of the jurisdictional areas are defined to establish wetland conditions under the Coastal Act. The inland extent of the beach is protected 300 feet inland until an extinct linear feature is encountered, which within the proposed project area is the roadway, PCH.

### 2.15.2 Affected Environment

The following information is presented in the NES (Caltrans Division of Environmental Planning) prepared on February 2018 and the NES (Amended) completed on October 2018.

The proposed project is located about 100 feet from the shoreline at PM 4.0 and about 175 feet from the shoreline at PM 4.2. At PM 4.0, the edge of the roadway terminates to a cliff. Along the slope of the cliff are large boulders, which were placed as temporary slope restoration measures from January 2015. The area at PM 4.0 contains few native plants due to the placement of the boulders. The ground cover along the associated right of way and encroaching onto the weathered cliff face on the ocean side is primarily bare ground (60% ground cover), purple fountain grass (*Pennisetum setaceum*; 35 % ground cover), and scattered individuals of laurel sumac (*Malosma laurina*) and lemonadeberry (*Rhus integrifolia*; <5%). At PM 4.2, the shoulder of the roadway is the start of the sandy beach slope that terminates onto the sandy beach of Sycamore Cove Beach. The slope is inhabited with primarily laurel sumac (30%), lemonadeberry (30%), and invasive species (40%) such as toluaca (*Datura wrightii*), purple fountain grass, and tree tobacco (*Nicotiana glauca*).

The Pacific Ocean is considered “navigable waters” and regulated as a Water of the US under the CWA 33 USC 1344. The Pacific Ocean is vulnerable to construction impacts from the proposed project. Airborne construction debris and rain runoff from the construction site have the potential to flow into the Pacific Ocean due to the close proximity of the project area from the navigable waterway. Possible discharge of construction debris into the Pacific Ocean would cause the proposed project to be subject to regulation under Section 404 of the CWA. Section 404 gives USACE jurisdiction over fill materials in essentially all water bodies, including wetlands. USACE administers a permit program that regulates the discharge of dredged or fill material into the mean high-water level of the Waters of the US. The USACE is also responsible for implementing Section 10 of the Rivers and Harbors Act of 1899, which establishes permit requirements to prevent unauthorized obstruction or discharge into the median high-water level of any navigable Water of the US.

Wetlands as protected under Section 404, are identified based on vegetation, visible hydrology, and geography. The definition of wetlands under Section 404 of the CWA is: “areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas”. The U.S. Fish and Wildlife Service (USFWS) is the principal federal agency that provides information on the status and extent of wetlands in the U.S. through the National Wetlands Inventory (NWI). Wetlands are identified through the CWA criteria and mapped to be made accessible through the NWI.
The area of the proposed project does not meet the criteria identified through the Section 404 of the CWA to be classified as wetlands. The project area is a rocky cliff-face and not wetland habitat. Additionally, Caltrans district biologists conducted a field survey on October 19, 2017 to assess the erosion conditions, identify vegetation, and analyze the habitat of the area. The biologists concluded that the project area is not considered wetland habitat.

**RWQCB Jurisdiction**
Pursuant to the CWA, all dredge and fill activities regulated under Section 404 are required to obtain a 401 Water Quality Certification from the RWQCB. Typically, waters of the State, as regulated under Section 401 of the CWA, reflect those waters that fall under USACE jurisdiction and also include any isolated wetland or non-wetland acreage. The RWQCB is ultimately responsible for determining their jurisdiction over waters of the State pursuant to Section 401 of the CWA and water regulated under the Porter-Cologne Water Quality Control Act. Because the project requires a Section 404 permit from USACE, a Section 401 permit is required by the RWQCB as well.

### 2.15.3 Environmental Consequences

**Alternative 1 – Cantilever Option**

As mentioned above, the proposed project is subject to USACE jurisdiction. Any construction work in the area will require a Section 404 permit, Section 10 permit, and Section 401 permit. Coordination with the USACE and RWQCB will continue during the final design phase of the project to ensure Caltrans is in compliance with all permit requirements and measures. Alternative 1 – Cantilever Option involves drilling the piles of the wall from the shoulder of the roadway, without any slope excavation. The construction requires drilling primary boreholes for the length of the wall, filling them with cement to create piles, then drilling the secondary boreholes and filling them with cement. This construction style is referred to as CIDH piles.

The only proposed excavation of dirt on the coastal side of PCH, is the amount required for removal to withhold the wall and minor excavation of about 20 inches to place the concrete barrier on top of the piles. CIDH piles are constructed with the addition of water and a hose to remove the excess mixture of water and dirt. This allows for better control of the excavated dirt, so that the particles do not become airborne. Through this construction method, dirt is not expected to spread extensively through the air or from careless dumping. To further reduce impacts however, a debris blanket and silt fencing will be proposed as a project feature to hold loosened sedimentation onto the slope and avoid discharge into the waterway. Therefore, the amount of fill material entering a U.S. navigable waterway, namely the Pacific Ocean, is expected to be minimal and a less than significant impact.

**BIO-1** A debris blanket with slit fencing will be deployed along the side of the cliff of both secant wall locations to hold sedimentation on the cliff and prevent loading onto the ocean or beach below.

**Alternative 2 – Ground Anchor Option**

Similar to the Alternative 1 – Cantilever Option, Alternative 2 – Ground Anchor Option will require drilling and pouring cement for both primary piles first, followed by secondary piles. However, the main difference between the two build alternatives is the placement of the ground anchor in Alternative 2, which is not proposed in Alternative 1. The design of Alternative 2 is cement piles running vertically into the ground and metal anchors extending perpendicularly from the piles, into the slope. The anchors will be placed about 4 feet below the ground surface and a series of anchors will be placed throughout the entire length of the wall. Each individual anchor will extend into the slope, ultimately lying underneath the roadway. A Section 404 permit, Section 10 permit, and a Section 401 permit is required for
construction of this alternative. Coordination with the USACE and RWQCB will continue during the final
design phase of the project to ensure Caltrans is in compliance with all permit requirements and
measures.

In order to install the anchor, a width of about 24 feet for the entire length of the walls will need to be
excavated from the face of the slope in order to gain access to the face of the piles. A considerable
amount of dirt will be excavated from the face of the slope for installation of the anchors and vertical
drilling of the piles. The dirt removed from drilling will be handled according to proper Caltrans handling
procedures and best management practices. Fill from this construction activity is expected to be
minimal and is considered less than significant.

However, the amount of excavated dirt from installation of the anchor is expected to be considerable if
no measures are implemented to reduce the excavated slope from entering the ocean. In order to
reduce sediment from dislodging from the cliff during construction and entering the waterway, the
debris blanket with slit fencing described in Alternative 1 – Cantilever Option (BIO-1) will also be
deployed to reduce impacts. The debris blanket BMP is expected to severely reduce discharge of debris
and rocks into the waterway and reduce this impact to less than significant.

2.15.4 Avoidance, Minimization, and/or Mitigation Measures
Alternatives 1 and 2 – Build Alternatives
No avoidance, minimization, and/or mitigation measures are proposed for either Build Alternative.

Alternative 3 – No Build Alternative
Because no ground disturbance or construction would occur under the No Build Alternative, there
would be no impacts to wetlands and Waters of the United States.

2.16 Plant Species
2.16.1 Regulatory Setting
The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have
regulatory responsibility for the protection of special-status plant species. “Special-status” species are
selected for protection because they are rare and/or subject to population and habitat declines. Special
status is a general term for species that are provided varying levels of regulatory protection. The highest
level of protection is given to threatened and endangered species; these are species that are formally
listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act
(FESA) and/or the California Endangered Species Act (CESA). Please see Section 2.18 Threatened and
Endangered Species in this document for detailed information about these species.

This section of the document discusses all other special-status plant species, including CDFW species of
special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and
endangered plants.

The regulatory requirements for FESA can be found at 16 United States Code (USC) Section 1531, et seq.
See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be
found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the
Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the
California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 21000-
21177.
2.16.2 Affected Environment

The following information is presented in the NES (Caltrans Division of Environmental Planning) prepared on February 2018 and the NES (Amended) completed on October 2018.

A search of the CDFW’s California Natural Diversity Database (CNDDB), California Invasive Plant Council (Cal IPC) inventory, California Native Plant Society (CNPS), and Calflora was conducted for the Point Mugu USGS quadrangle on which the project is situated. The literature review and database search yielded a total of 7 plant species given a status (listed, Species of Special Concern, CNPS listing, etc.) Special-status plant species are either listed as endangered or threatened under FESA or CESA, or rare under the California Native Plant Protection Act. Of these 7 species identified, 5 species are federally and/or State-listed as endangered or threatened and are discussed in Section 2.18 Threatened and Endangered Species. Within this section, the remaining 2 species will be discussed and are summarized in the Table 2.9.

A general field survey was conducted on October 19, 2017 and a general drone overview was conducted on January 30, 2018. The surveys were done to observe the habitat of the area for suitability of the plant species of special concern.

Table 2.9 Special Species Plants enlisted as rare under the California Native Plant Protection Act

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>General Habitat Description</th>
<th>Habitat Present/Absent</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coulter’s goldfields</td>
<td>Lasthenia glabrata</td>
<td>CNDDB 1B.1</td>
<td>Coastal salt marshes, playas, and vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands of 1-1,375 meter elevation</td>
<td>Absent</td>
<td>The project impact area occurs on a rocky cliff-face that is not suitable for the plant</td>
</tr>
<tr>
<td>Estuary seablite</td>
<td>Suaeda esteroa</td>
<td>CNDDB 1B.2</td>
<td>Salt-marsh coastal wetlands, occasionally in non-wetlands of 0-120 meter elevation</td>
<td>Absent</td>
<td>The project impact area occurs on a rock cliff-face that is not suitable for the plant</td>
</tr>
</tbody>
</table>

List of rare special-status plant species maintained by the CNPS. The status reflects the ranking of the California rare plant in the CNDDB Special Vascular Plants, Bryophytes, and Lichens List. The statuses are represented as follows: 1B.1 = Plants Rare, Threatened, or Endangered in California and Elsewhere with a threat code of Seriously Threatened in California (over 80% of occurrences threatened); and 1.B.2 = Plants Rare, Threatened, or Endangered in California and Elsewhere with a threat code of Moderately Threatened in California (20-80% of occurrences threatened).

Tree Protection in the Ventura County Local Coastal Plan

Section 4.1.5 in the LCP grants certain protections to trees classified as protected trees when the trees are located within the coastal zone of Ventura County. The following trees are not to be removed unless under specified conditions described in the LCP: trees that contribute to the function and habitat value of an Environmentally Sensitive Habitat Area, Native Trees, Historical Trees, and Heritage Trees. The Protected Trees Policy is set to fulfill the Tree Protection Goal of “protect trees that function as important biological, watershed, visual and historic resources within coastal areas of Ventura County.” Trees contribute to the visual beauty, provide historic landmarks to recall important events in Ventura County.
County’s history, reduce runoff and erosion, and are part of our living heritage. The multiple benefits of trees are lost when unnecessary tree removal takes place. The Protect Trees Policy and Tree Protection Goal are designed to retain the important functions of trees and avoid adverse effects resulting from tree removal.27

2.16.3 Environmental Consequences
Alternatives 1 and 2 – Build Alternatives
The preceding table shows that the habitat associated with the CNPS listed sensitive plant species are absent within the BSA, therefore the presence of all listed species in the project site are not anticipated. Based on these conclusions, the proposed project is not anticipated to have an adverse effect on any sensitive plant species.

Clearing will be required for the build alternatives, with more removal anticipated for Alternative 2 – Ground Anchor Option than Alternative 1 – Cantilever Option. However, the proposed clearing will not impact the sensitive plant species described above, because they are not present in the BSA. Impacts to coastal sage scrub habitat is anticipated from clearing activities and a description of the impacts can be found in Section 2.14 Natural Communities of this document.

In addition, neither build alternative includes removal of any tree that is classified as a protected tree under the Ventura County LCP. The only vegetation removal proposed is minor clearing for installation of the piles and anchor. The plant community that would be impacted is sparse vegetation without special status plants or protected trees.

2.16.4 Avoidance, Minimization, and/or Mitigation Measures
Alternatives 1 and 2 – Build Alternatives
No avoidance, minimization and/or mitigation measures are required because no sensitive plant species are present within the project area.

Alternative 3 – No Build Alternative
The No Build Alternative would pose no changes to the existing environment, therefore would not have an adverse effect on any sensitive plant species.

2.17 Animal Species
2.17.1 Regulatory Setting
Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries Service), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.18 Threatened and Endangered Species below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

27 Ventura County Coastal Zoning Ordinance. 2017. Ventura County Planning Division
- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:
- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

2.17.2 Affected Environment
Species of Special Concern
Database searches of CDFW’s CNDDB, USFWS iPAC Resource List, and NOAA Fisheries Service’s West Coast Region California Species List Tool was conducted for the Point Mugu USGS 7.5 topographic quadrangle in which the project area is situated. The literature review and database searches yielded a total of 34 animal species with a special-status that have the potential to occur or known to occur within the BSA. The special-status animal species revealed in the database searches are enlisted as endangered or threatened under FESA or CESA, and CDFW’s fully protected species or species of special concern. Of these 34 animal species identified, 28 species are federally and/or State-listed as endangered or threatened and are discussed in Section 2.18 Threatened and Endangered Species. Within this section, the remaining 6 animal species will be discussed in this section and are summarized in the Table 2.10.

Table 2.10 Special-Status Animal Species enlisted as a CDFW Species of Special Concern

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>General Habitat Description</th>
<th>Habitat Present/Absent</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Coast Marsh Vole</td>
<td>Microtus californicus stephensi</td>
<td>SSC</td>
<td>Tidal areas in Los Angeles, Orange, and Southern Ventura counties</td>
<td>Absent</td>
<td>Habitat for this species does not exist within the project area. The project impact area occurs on a rocky cliff-face, not a wetland.</td>
</tr>
<tr>
<td>Southern California Saltmarsh Shrew</td>
<td>Sorex ornatus salicornicus</td>
<td>SSC</td>
<td>Dense vegetation and woody debris in coastal marshes of Los Angeles, Orange, and Ventura Counties</td>
<td>Absent</td>
<td>Habitat for this species does not exist within the project area.</td>
</tr>
<tr>
<td>Burrowing Owl</td>
<td>Athene cunicularia</td>
<td>SSC</td>
<td>Open, dry annual or perennial grasslands, deserts, and scrublands (low growing vegetation)</td>
<td>Absent</td>
<td>Habitat for this species does not present within the project area.</td>
</tr>
<tr>
<td>California Brown Pelican</td>
<td>Pelecanus occidentalis californicus</td>
<td>F/S delisted FP</td>
<td>Colonial nester on coastal islands just outside surf line</td>
<td>Absent</td>
<td>Only breeding colonies are within Channel Islands National Park.</td>
</tr>
<tr>
<td>Species</td>
<td>Habitat</td>
<td>Status</td>
<td>Project Impact</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------</td>
<td>----------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coastal Whiptail</td>
<td><em>Aspidoscelis tigris stejnegeri</em></td>
<td>SSC</td>
<td>Absent</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Multiple habitats. Found in deserts and semi-arid areas with sparse</td>
<td>Habitat for this species</td>
<td>Habitat does</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>vegetation and open areas. Also found in woodland and riparian areas</td>
<td>does not exist within the</td>
<td>not exist within the project area.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arroyo chub</td>
<td><em>Gila orcuttii</em></td>
<td>SSC</td>
<td>Absent</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slow water stream section with mud or sand bottoms. Feeds heavily on</td>
<td>Habitat for this species</td>
<td>Habitat does</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>aquatic vegetation and invertebrates</td>
<td>does not exist within the</td>
<td>not exist within the project area.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The status of the species is stated as: SSC = Species of Special Concern, F/S delisted = Federal and State delisted from the endangered species list, and FP = Federally Protected.

All of the species mentioned in the table above are not expected to be found within the project area because the habitat for these species does not exist within the project area. Therefore, none of the project alternatives would directly or indirectly impact the above-mentioned species because they are not expected to be found within the project impact area.

**California Grunion**

CDFW expressed concern for project impacts on California grunion during early consultation. California grunion are found along the Pacific Coast from Point Conception, California to Punta Abreojos, Baja California Sur. California grunion utilize beach habitats for spawning events by leaving the water and swimming up on to the beach to spawn. Spawning occurs for 2 to 6 nights after the full and new moon, beginning soon after high tide and continuing for several hours. The peak of spawning season is from March to June, but can extend from February until September. The project site is adjacent to Sycamore Cove Beach which is a sandy beach and is potential spawning habitat for California grunion.

On August 28, 2018 Caltrans biologists conducted a California grunion survey to determine if the grunion habitat is actively being used for spawning. The survey was done from 10:30 p.m. and 12:45 a.m. to serve as the ideal time for spawning. During the survey, about 30 individuals were observed with some exuding spawning behavior. The area surveyed is immediately below the proposed secant wall at PM 4.2, therefore construction activities have the potential to impact California grunion if night work is required and a considerable amount of dirt is deposited on the spawning habitat.

**Mexican Free-tailed Bat**

Bats, along with other migratory wildlife species, are afforded protection by state law from take and/or harassment (Fish and Game Code Section 4150, California Code of Regulations, Section 251.1). If bats may be present within the project location, impacts to the species must be considered. Many species of bats commonly use rock crevices and tree foliage for roosting. Since the project is adjacent to rocky cliffs, cliff faces, and crevices, bats could be using the suitable habitat for roosting.
Caltrans biologists conducted bat surveys at both proposed secant wall locations on August 21, 2018. Bat calls were recorded using a Peterson Ultrasound Detector and the calls were used as an identifier of the bat species within the area. The bat species was identified to be *Tadarida brasiliensis* (Mexican Free-tailed bat). Construction activities can impact bats and their pups because they are sensitive to noise, vibration, and bright lights.

**Bioacoustics**

Wildlife can be impacted by human-made noises, especially during construction when the noise volumes are typically much louder than the regular environment. Loud construction noises can compete with wildlife communications and make it difficult for species to communicate with each other. Wildlife communication is important for mating, predation protection, social coordination like group hunts, and sharing about information in the environment. In order to analyze bioacoustics within the project area, a Bioacoustics Study Report (April 18, 2018) was prepared for this project by Caltrans Office of Environmental Engineering, Noise and Vibration Branch. The study was prepared to analyze potential construction impacts on wildlife species by comparing the construction noise with the current traffic noise volumes the area already experiences.

A site investigation was conducted on November 8, 2017 to identify land uses that have the potential to be subject to traffic and construction noise impacts from the proposed alternatives. No sound barriers exist within the project limits. Short-term monitoring was conducted at 4 locations, using Larson Davis Model 831 sound meter. The measurements were taken over a 20-minute period at each site. The locations were selected to represent each local small area within the project area and serve as representative modeling locations. The short-term measurements compute the real traffic noise level at these locations, which is then used to model the peak traffic noise levels. The FHWA Traffic Noise Model Version 2.5 (TNM 2.5) was used to model peak traffic noise levels.

In order to validate the accuracy of the model, TNM 2.5 was used to compare the field measured traffic noise levels to modeled noise levels at the short-term monitoring locations (Table 2.11). Calibration of the model was done as needed.

**Table 2.11 Monitoring Locations for the Bioacoustics Study Report with Measured Traffic Noise and Modeled Peak Traffic Noise from TNM 2.5**

<table>
<thead>
<tr>
<th>Monitoring Locations</th>
<th>Measured Traffic Noise</th>
<th>Modeled Peak Traffic Noise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site 1 (Southbound shoulder by PM 4.2)</td>
<td>72.1</td>
<td>80.1</td>
</tr>
<tr>
<td>Site 2 (Northbound shoulder by PM 4.2)</td>
<td>64.3</td>
<td>72.3</td>
</tr>
<tr>
<td>Site 3 (Southbound shoulder by PM 4.0)</td>
<td>72.8</td>
<td>80.8</td>
</tr>
<tr>
<td>Site 4 (Northbound shoulder by PM 4.0)</td>
<td>66.3</td>
<td>74.3</td>
</tr>
</tbody>
</table>

2.17.3 Environmental Consequences

Alternatives 1 and 2 – Build Alternatives
Species of Special Concern

None of the species listed in Table 2.10 contain habitat within the project area. The previously mentioned species are not expected to be found within the project impact area because the habitat needed for survival does not exist within the constraints of the project area. Thus the build alternatives would not impact any of the mentioned special status species.

California Grunion

The construction of the secant wall at PM 4.2 will require excavation for both alternatives. Alternative 1 – Cantilever Option will require no slope excavation, only drilling for CIDH piles which utilizes a hose to contain the excavation dirt for the piles. Alternative 2 – Ground Anchor Option will require drilling CIDH piles, similarly to Alternative 1 – Cantilever Option but will also include metal anchors extending perpendicularly from the piles, into the slope. The anchors will be placed about 4 feet deep from the ground surface and a series of anchors will be placed throughout the entire length of the wall. Each individual anchor will be planted into the face of the slope, ultimately lying underneath the roadway.

Adjacent to PM 4.2, California grunion spawning habitat on Sycamore Cove Beach. No construction equipment is proposed to be staged on the beach. However, construction activities such as excavation can impact the California grunion due to incidental sedimentation landing on the beach during spawning events. The California grunion would be out of the water and on the sandy beach during spawning events. In order to keep this area clear during spawning events as to not disturb the grunion:

BIO-2 No construction work shall commence on full moon or high tide nights to avoid impacting California grunion.

BIO-3 Full-time biological monitoring will occur during project construction.

The above-mentioned project features will ensure that construction activities do not interfere with spawning events for California grunion and will result in a less than significant impact to the species. Table 2.13 in Section 2.18 compares impacts to the California grunion for each alternative.

Mexican Free-tailed Bat

Bat surveys revealed that the Mexican free-tailed bat was present within the project area. Bats could be utilizing the rock cliffs and crevices within the project area and potentially roosting in close proximity to the project during construction. Construction will last 1 year and may require night work. The construction noise, vibration, and bright lights for both project alternatives have the potential to impact the nearby roosting bats. Consequently, the following project features will be implemented to avoid incidental impacts to bats:

BIO-4 No construction work or equipment shall directly impact the rock or cliff face on the northbound upslope side of PCH.

BIO-5 No construction work or equipment shall directly impact the rock formation adjacent to PM 4.2 on the southbound shoulder of PCH.

BIO-6 Biological monitoring for all night work during construction will be required from sunset to dawn to ensure no direct impacts or encroachment upon the aforementioned bat habitat.
**BIO-7** Prior to project construction, a Caltrans biologist shall conduct bat surveys within and immediately adjacent to the project impact areas to identify the presence of bats and/or bat pups. If bat pups are confirmed, work shall be delayed until the bat pups are able to fly or forage.

**BIO-8** Should night work be needed, work shall commence 1 hour after sunset after all the bats have vacated the project impact areas to forage and cease 2 hours before dawn when bats return to roost.

*Bioacoustics*

The measurement and modeling results indicate that existing peak hour traffic noise levels for the area typically range between 75 and 82 dBA-Leq(h). The peak traffic noise levels modeled by TNM 2.5 were compared to predicted construction noise, in order to determine if there is a significant construction noise impact. The loudest construction activity proposed by both build alternatives is drilling for construction of the secant walls. The anticipated construction noise from the build alternatives will be the same because the drilling activity will involve the same equipment. Construction noise for both build alternatives was then modeled using the FHWA’s Roadway Construction Noise Model version 1.00 (RCNM). In order to develop the analytical model, all relevant parameters including construction equipment, receiver locations, and existing terrain within the project area, were inputted into RCNM to predict the expected construction noise levels.

The layout maps in Table 2.11 and Table 2.12 show construction noise contour lines with the peak traffic noise values modeled at the 4 monitoring locations. The contour line closest to the monitoring site represents the degree of noise that the site is anticipated to experience from construction activities. At sites 2, 3, and 4 the contour line representing the project construction noise is higher than the modeled peak traffic noise for the location. Conversely, at site 1 the anticipated project construction noise was found lower than the modeled peak traffic noise. This means that at site 1, the construction activities would not cause a significant noise impact to the area because the area experiences more noise from the peak traffic than modeled construction activities.

Construction noise is expected to be higher than the peak traffic noise at the other 3 locations. However, the construction noise at the 3 locations was not found significantly higher than the peak traffic noise. At each location, the construction noise is only slightly higher than the peak traffic noise (site 2: peak is 72 dBA and construction is 75 dBA; site 3: peak is 81 dBA and construction 84 dBA; site 4: peak is 74 dBA and construction is 78 dBA). The difference ranges between 3 – 4 dBA which is not a substantial increase according to Caltrans’ Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects (May 2011), that states 12dBA as a substantial increase. Therefore, the anticipated construction noise is not considered a significant impact.

Furthermore, since the construction noise is not significantly different from the peak traffic noise, wildlife will not experience a great change in noise during construction of the project. Wildlife will experience similar noise levels to current conditions. Wildlife is not expected to experience significant bioacoustics impacts.
Figure 2-14: Construction noise contour lines with the peak traffic noise values modeled at PM 4.2.
Figure 2-15: Construction noise contour lines with the peak traffic noise values modeled at PM 4.0.
The build alternatives would not produce significant adverse noise impacts from construction because construction would be conducted in accordance with Caltrans standard specifications and would be short-term and intermittent. The temporary construction noise impacts would be minimized with the following project features:

**BIO-9** Equipment noise control should be applied to revising old equipment and designing new equipment to meet specified noise levels.

**BIO-10** In-Use Noise Control should be applied where existing equipment is not permitted to produce noise levels in excess for specified limits.

**BIO-11** Site restrictions should be applied as an attempt to achieve noise reduction through modifying the time, place, or method of operation of a particular source.

**BIO-12** Personal training of operators and supervisors is needed to become more aware of the construction site noise problems.

*Alternative 3 – No Build Alternative*  
**Species of Special Concern**  
Because no special status animal species exist within the project area, there would be no impacts to the species.

*California Grunion*  
No construction work is proposed along Sycamore Cove Beach to potentially affect the California grunion spawning events. The sandy beach habitat would remain as is and the California grunion would be able to utilize the beach as currently.

*Mexican Free-tailed Bat*  
The rocky crevice areas in which bats can potentially use to roost would not be impacted by construction noise, vibration, or bright lights. The bats would remain unaffected and endure no impacts.

*Bioacoustics*  
No construction work is proposed that could potentially impact wildlife species for Alternative 3 – No Build Alternative. Noise conditions would remain as is, with no increase in noise emissions.

### 2.17.4 Avoidance, Minimization, and/or Mitigation Measures

*Alternatives 1 and 2 – Build Alternatives*  
No avoidance, minimization, and/or mitigation measures would be required.

*Alternative 3 – No Build Alternative*  
No avoidance, minimization, and/or mitigation measures would be required.

### 2.18 Threatened and Endangered Species

**2.18.1 Regulatory Setting**  
The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered
and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and Caltrans, as assigned), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement or a Letter of Concurrence. Section 3 of FESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

The 1996 amendments to the Act established the requirement to identify and describe Essential Fish Habitat (EFH), which are defined as “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.” Federal agencies are required to consult with the NOAA Fisheries Service when their actions or activities may adversely affect EFH.

### 2.18.2 Affected Environment

Under Section 7 of FESA, federal agencies, such as FHWA, are required to consult with the USFWS and NOAA Fisheries Service to ensure federal actions are not likely to jeopardize the continued existence of listed species or destroy/adversely modify designated critical habitat. Under the 1996 amendments of the Magnuson-Stevens Fishery Conservation and Management Act of 1976, consultation with NOAA Fisheries is required by all federal agencies when there is a potential for impacts to EFH. Caltrans has initiated early coordinated with both USFWS and NOAA Fisheries Service, under its delegated authority from FHWA.
Similarly, California enacted the CESA which requires state agencies to consult with CDFW to avoid potential impacts to California listed endangered and threatened species. Caltrans has initiated early coordination with CDFW.

As mentioned in Section 2.14 Natural Communities, Section 2.16 Plant Species, and Section 2.17 Animal Species, the CNDDDB search yielded federally and state protected species enlisted as threatened and endangered that have the potential to occur within the BSA. Table 2.12 shown below, lists the 35 state and federal threatened and endangered species the CNDDDB search yield. The USFWS Species List from the IPAC Trust Report was accessed on October 1, 2017 and re-generated on August 30, 2018. The official CNNDB Species list was accessed on October 1, 2017 and updated on August 31, 2018. The NOAA Fisheries Service West Coast Region California Species list was accessed on October 1, 2017 and re-reviewed on August 31, 2018.

Table 2.12 Threatened and Endangered Species enlisted under FESA and CESA

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>General Habitat Description</th>
<th>Habitat Present/ Absent</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mammal Species</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Guadalupe Fur Seal</td>
<td>Arctocephalus townsendi</td>
<td>Federally Threatened, State Threatened</td>
<td>Primarily on Isla de Guadalupe, in sheltered crevices and sea caves. Rarely observed at sea</td>
<td>Absent</td>
<td>Project impact area outside of species range</td>
</tr>
<tr>
<td>Sperm whale</td>
<td>Physeter microcephalus</td>
<td>Federally Endangered</td>
<td>Open ocean</td>
<td>Absent</td>
<td>Project impact area is not in open ocean</td>
</tr>
<tr>
<td>Sei whale</td>
<td>Balaenoptera borealis</td>
<td>Federally Endangered</td>
<td>Open ocean</td>
<td>Absent</td>
<td>Project impact area is not in open ocean</td>
</tr>
<tr>
<td>North Pacific Right Whale</td>
<td>Eubalaena japonica</td>
<td>Federally Endangered</td>
<td>Open ocean</td>
<td>Absent</td>
<td>Project impact area is not in open ocean</td>
</tr>
<tr>
<td>Southern Resident Killer Whale</td>
<td>Orcinus orca</td>
<td>Federally Endangered</td>
<td>Open ocean</td>
<td>Absent</td>
<td>Project impact area is not in open ocean</td>
</tr>
<tr>
<td>Humpback Whale</td>
<td>Megaptera novaeangliae</td>
<td>Federally Endangered</td>
<td>Open ocean</td>
<td>Absent</td>
<td>Project impact area is not in open ocean</td>
</tr>
<tr>
<td>Fin Whale</td>
<td>Balaenoptera physalus</td>
<td>Federally Endangered</td>
<td>Open ocean</td>
<td>Absent</td>
<td>Project impact area is not in open ocean</td>
</tr>
<tr>
<td>Blue Whale</td>
<td>Balaenoptera physalus</td>
<td>Federally Endangered</td>
<td>Open ocean</td>
<td>Absent</td>
<td>Project impact area is not in open ocean</td>
</tr>
</tbody>
</table>

**Bird Species**
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>General Habitat Description</th>
<th>Habitat Present/ Absent</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least Bell’s Vireo</td>
<td><em>Vireo bellii pusilus</em></td>
<td>Federally Endangered,</td>
<td>Riparian forest, riparian scrub, riparian woodland</td>
<td>Absent</td>
<td>Habitat for this species does not exist within the project impact area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>State Endangered</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western Snowy Plovers</td>
<td><em>Charadrius alexandrines</em></td>
<td>Federally Threatened,</td>
<td>Sandy beaches, salt pond levees, and shores of large alkali lakes</td>
<td>Present</td>
<td>Habitat for this species is present on the underlying sandy beach at location PM 4.2</td>
</tr>
<tr>
<td></td>
<td><em>nivosus</em></td>
<td>State Threatened</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belding’s Savannah Sparrow</td>
<td><em>Passerculus sanwichensis</em></td>
<td>State Endangered</td>
<td>Coastal salt marshes; nests in salicornia on and about margins of tidal flats</td>
<td>Absent</td>
<td>Habitat for this species does not exist within the project impact area</td>
</tr>
<tr>
<td></td>
<td><em>beldingi</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marbled Murrelet</td>
<td><em>Brachyramphus marmoratus</em></td>
<td>Federally Threatened,</td>
<td>Feeds near shore; nests inland along coast; calm water</td>
<td>Absent</td>
<td>Habitat for this species does not exist within the project impact area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>State Threatened</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light-Footed Ridgway’s Rail</td>
<td><em>Rallus obsoletus levipes</em></td>
<td>Federally Endangered,</td>
<td>Coastal salt marshes, lagoons, maritime environments</td>
<td>Absent</td>
<td>Habitat is not a marsh or lagoon</td>
</tr>
<tr>
<td></td>
<td></td>
<td>State Endangered</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>California Least Tern</td>
<td><em>Sterna antillarum browni</em></td>
<td>Federally Endangered,</td>
<td>Nests along the coast; open beaches</td>
<td>Present</td>
<td>Habitat for this species is present on the underlying sandy beach at location PM 4.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>State Endangered</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coastal California Gnatcatcher</td>
<td><em>Polioptila californica</em></td>
<td>Federally Threatened,</td>
<td>Coastal bluff scrub, coastal scrub</td>
<td>Absent</td>
<td>No coastal scrub within project impact area</td>
</tr>
<tr>
<td></td>
<td><em>californica</em></td>
<td>State Threatened</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southwestern Willow Flycatcher</td>
<td><em>Empidonax traillii extimus</em></td>
<td>Federally Endangered,</td>
<td>Riparian woodland, slow moving waters with multiple canopy layers</td>
<td>Absent</td>
<td>Habitat for this species does not exist within the project impact area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>State Endangered</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reptile Species**
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>General Habitat Description</th>
<th>Habitat Present/Absent</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Pacific Green Sea Turtle</td>
<td><em>Chelonian mydas</em></td>
<td>Federally Threatened</td>
<td>Marine</td>
<td>Absent</td>
<td>Species range does not occur within project impact area</td>
</tr>
<tr>
<td>North Pacific Loggerhead Sea Turtle</td>
<td><em>Caretta caretta</em></td>
<td>Federally Endangered</td>
<td>Marine</td>
<td>Absent</td>
<td>Species range is not present within the project impact area</td>
</tr>
<tr>
<td>Leatherback Sea Turtle</td>
<td><em>Dermochelys coriacea</em></td>
<td>Federally Endangered</td>
<td>Marine</td>
<td>Absent</td>
<td>Species range is not present within the project impact area</td>
</tr>
<tr>
<td>Olive Ridley Sea Turtle</td>
<td><em>Lepidochelys olivacea</em></td>
<td>Federally Endangered</td>
<td>Marine; pelagic</td>
<td>Absent</td>
<td>Species range is not present within the project impact area</td>
</tr>
<tr>
<td><strong>Amphibian Species</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>California Red-Legged Frog</td>
<td><em>Rana draytonii</em></td>
<td>Federally Threatened, State Endangered</td>
<td>Lowlands and foothill in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation</td>
<td>Absent</td>
<td>Habitat is not freshwater</td>
</tr>
<tr>
<td><strong>Fish Species</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tidewater Goby</td>
<td><em>Eucyclobius newberryi</em></td>
<td>Federally Endangered, State Endangered</td>
<td>Brackish water habitats along the coast</td>
<td>Absent</td>
<td>Habitat for this species does not exist within the project impact area</td>
</tr>
<tr>
<td>Green Sturgeon</td>
<td><em>Acipenser medirostris</em></td>
<td>Federally Threatened</td>
<td>Rivers, estuaries, bays/harbors from Monterey and North</td>
<td>Absent</td>
<td>Project is further south than species range extends</td>
</tr>
<tr>
<td>Steelhead Southern California DPS</td>
<td><em>Oncorhynchus mykiss irideus</em></td>
<td>Federally Endangered</td>
<td>Aquatic, south coast flowing waters</td>
<td>Absent</td>
<td>Habitat for this species does not exist within the project impact area</td>
</tr>
<tr>
<td><strong>Invertebrate Species</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riverside Fairy Shrimp</td>
<td><em>Streptocephalus woottoni</em></td>
<td>Federally Endangered</td>
<td>Swales/earth slump basins in grassland and coastal sage scrub</td>
<td>Absent</td>
<td>Habitat for this species does not exist within the project impact area</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Status</td>
<td>General Habitat Description</td>
<td>Habitat Present/Absent</td>
<td>Rationale</td>
</tr>
<tr>
<td>-----------------------------------</td>
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<td>----------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>White Abalone</td>
<td><em>Haliotis sorenseni</em></td>
<td>Federally Endangered</td>
<td>Rocky substrates alongside sand channels, which tend to accumulate with the algae they eat. Found at depths of 50-180 feet.</td>
<td>Absent</td>
<td>Habitat for this species does not exist within the project impact area</td>
</tr>
<tr>
<td>Black Abalone</td>
<td><em>Haliotis cracherodii</em></td>
<td>Federally Endangered</td>
<td>Rocky substrates in intertidal and shallow subtidal reefs (~18 feet deep) along the coast. The species occurs in complex surfaces and crevices; and can withstand extreme variations in temperature, salinity, moisture, and waves.</td>
<td>Present</td>
<td>Habitat present within project impact area. Surveys concluded that species were absent from project impact area</td>
</tr>
<tr>
<td>Vernal Pool Fairy Shrimp</td>
<td><em>Branchinecta lynchii</em></td>
<td>Federally Threatened, State Threatened</td>
<td>Endemic to grasslands</td>
<td>Absent</td>
<td>Habitat for this species does not exist within the project impact area</td>
</tr>
</tbody>
</table>

**Plant Species**

<p>| California Orcutt Grass       | <em>Orcuttia californica</em>           | Federally Endangered, State Endangered | Vernal pools, valley grassland, freshwater wetlands, wetland-riparian                                                                                                                                                | Absent                 | Habitat for this species does not exist within the project impact area    |
| Salt Marsh Bird’s Beak         | <em>Chloropyron maritimum ssp. Maritimum</em> | Federally Endangered, State Endangered | Coastal dunes and wetland limited to the higher zones of salt marsh habitat                                                                                                                                               | Absent                 | Habitat for this species does not exist within the project impact area    |
| Gambel’s Watercress            | <em>Rorippa gambellii</em>              | Federally Endangered, State Threatened | Interior wetlands                                                                                                                                                                                                       | Absent                 | Habitat for this species does not exist within the project impact area    |</p>
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>General Habitat Description</th>
<th>Habitat Present/Absent</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marsh sandwort</td>
<td><em>Arenaria paludicola</em></td>
<td>Federally Endangered</td>
<td>Marshes and swamps; growing through dense mats of <em>typha</em>, <em>juncus</em>, <em>scirpus</em>, etc. in freshwater marsh. Sandy soil at about 3 to 172 meter elevation</td>
<td>Absent</td>
<td>The project impact area occurs on a rock cliff-face that is not suitable for the plant</td>
</tr>
<tr>
<td>Spreading Navarretia</td>
<td><em>Navarretia fossalis</em></td>
<td>Federally Threatened</td>
<td>Vernal pools, chenopod scrub, marshes, swamps, and playas</td>
<td>Absent</td>
<td>Habitat for this species does not exist within the project impact area</td>
</tr>
<tr>
<td><strong>Natural Communities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groundfish Essential Fish Habitat</td>
<td>N/A</td>
<td>S2.1</td>
<td>Designated area to prevent damaging fishing methods, such as bottom trawling. Offers protection to habitats including kelp forest, sea grass, and estuaries</td>
<td>Present</td>
<td>Classified habitat present within project impact area at PM 4.0</td>
</tr>
<tr>
<td>Coastal Pelagic Essential Fish Habitat</td>
<td>N/A</td>
<td>S2.1</td>
<td>Designated area to prevent damaging fishing methods, such as bottom trawling. Offers protection to habitats including kelp forest, sea grass, and corals</td>
<td>Present</td>
<td>Classified habitat present within project impact area at PM 4.0</td>
</tr>
<tr>
<td>Highly Migratory Species Essential Fish Habitat</td>
<td>N/A</td>
<td>S2.1</td>
<td>Designated areas to prevent damages to, and protect habitat critical for fish migration, including kelp forests</td>
<td>Present</td>
<td>Classified habitat present within project impact area at PM 4.0</td>
</tr>
</tbody>
</table>

List of federally and state threatened and endangered species recovered from species lists from CNNDB, and USFWS.
Black Abalone

Black abalone are large marine gastropod mollusks found in rocky intertidal and subtidal habitats. During low tides, these mollusks can typically be found wedged into crevices, cracks, and rock depressions from the high intertidal zone to approximately 19.5 feet deep. When they immerse, they have been observed using their “feet” to move freely over rock surfaces. Because the species is known to inhabit rocky intertidal areas, NOAA Fisheries Service is concerned about potential impacts to black abalone at PM 4.0. The intertidal zone is an area that is underwater at high tide and exposed at low tide. The intertidal zone within the project location is not included in official designated critical habitat maps for black abalone. However, Black abalone mapping is incomplete in within the project area and the lack of data does not conclusively confirm the absence of black abalone. Drone surveys from January 30, 2018 revealed that the intertidal rocks, crevices, and pools within PM 4.0 was potential habitat for black abalone. Therefore, this area does contain suitable black abalone habitat and the species has the potential to be present within the project impact area.

During early coordination, NOAA Fisheries Service expressed specific concerns of debris dislodging from the cliff side during project construction and landing into the black abalone habitat below. Black abalone can be dislodged from the rocky substrate by being struck by debris moving at a high velocity down the cliff side. The size of the debris that can impact the black abalone can be as small as a rock that is about the size of cobble or larger. Increased sedimentation can smother the habitat and reduce the quality of the habitat. Debris loosened during project construction, has the potential to impact the black abalone habitat within the intertidal zone and the black abalone themselves, if they are found to be present.

In order to determine if black abalone are using the suitable habitat at PM 4.0, black abalone surveys were conducted from March 27 to 29, 2018. The surveys were conducted by biologists from Caltrans, private consulting, and NOAA Fisheries Service. The duration of the surveys was about 3 hours and surveys were initiated an hour before the peak low tide of the day so that the intertidal rocks, crevices, and pools could be surveyed at the average lowest tide. The intertidal zone within the project location stretches approximately 50 feet on the rocky cliffside at PM 4.0 and borders the kelp forest at the base of the slope. The surveys found the rocky substrate to be covered approximately 50% by bacteria/diatom film. The intertidal zone was dominated by California mussel (Mytilus californianus) and gooseneck barnacle (Pollicipes polymerus); and occasionally sea stars (Pisaster ochraceous), sea anemones (Anthopleura sola), and drift kelp (Macrocystis pyrifera) were observed. Dolphins and sea lions were also observed swimming nearby. The habitat was found suitable for black abalone, however the surveys determined no black abalone were present at the project location.

Essential Fish Habitat

As mentioned previously in this section, EFH is a habitat designation protected under the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act of 1976. The designation is an effort to identify and protect the healthy habitats fish need to survive and reproduce. The 3 protected habitat types classified and managed by NOAA Fisheries Service occurring within the project area are: Groundfish Essential Fish Habitat, Coastal Pelagic Essential Fish Habitat, and Highly Migratory Essential Fish Habitat.

These 3 underwater habitats are designated as EFH because kelp forest that borders the intertidal zone is protected and falls under these 3 EFH classifications. For this reason, the 3 EFHs appeared in the NOAA Fisheries Service search query because kelp forest is found at PM 4.0, the location of the proposed secant walls. To prevent redundancy, further discussion will address the kelp forest specifically, as all three protected habitat types within the context of this project refer to the adjacent
kelp forest. The kelp forest within the project area is located south of the direct project impact area and extends into the ocean.

Kelp forests harbor a greater variety and higher diversity of plants and animals, than almost any other ocean community. Kelp are large brown algae that live in cool, relatively shallow waters close to the shore and grow in dense groupings much like a forest on land. These underwater towers provide food and shelter for thousands of fish, invertebrates, birds, and marine mammals. They are also used by organisms as safe shelter during rough storms and to protect their young from predators.

Kelp forests generally form in shallow open waters due to their dependency upon light for photosynthesis and are rarely found deeper than 49-131 feet below the water surface. Their close proximity to the surface makes them susceptible and vulnerable to impacts from above water activities. The largest threat to kelp forests includes trawling, recreational boating activities, and overharvesting. NOAA Fisheries Service scientists monitor kelp forests to identify causes of any changes in the abundance or variety of organisms the forest may experience. During early coordination with Caltrans, NOAA Fisheries Service expressed concern in the EFH because it can be inhabited by various federally managed fish species that are included within the Pacific Coast Groundfish and Coastal Pelagic Species Fishery Management Plan. The kelp forest is not located within the potential area of direct project impacts because of its location south of the slope side, but it is possible to experience indirect impacts from construction activities.

California Least Tern and Western Snowy Plover
The California least tern and Western snowy plover nest on open sandy beaches along the coast of California from about March through September. The birds spend most of their time by the coastline since nesting is done on beaches and foraging is conducted near the ocean shoreline. For both species, eggs are camouflaged to look like sand and laid in a small depression on the sandy beach to serve as a nest. Human activities done on a beach that is used for nesting can disturb the birds and keep them away from their nests or even abandon them. Beach activities also have the potential to ruin nests or crush eggs since the nests are designed to be conspicuous and sandy beaches are heavily used by humans during summer, which is during the nesting season for both species.

Sycamore Cove Beach is a sandy beach located at PM 4.2 that fits the habitat description used by both California Least Terns and Western Snowy Plovers. Although neither alternative proposes construction activities on the beach itself and USFWS has confirmed that the two species are not known to occur at this small beach for nesting or roosting, the habitat is present at PM 4.2 and possible impacts to the protected species will be assessed below.

2.18.3 Environmental Consequences
Alternative 1 – Cantilever Option
Black Abalone and Essential Fish Habitat
Alternative 1 – Cantilever Option will involve constructing the wall by drilling CIDH piles from the shoulder of the roadway, without any slope excavation. The only proposed excavation for the CIDH piles, is the amount of dirt required for removal to install the piles to withhold the wall and minor excavation of about 20 inches to place the concrete barrier on top of the piles. CIDH piles are constructed with the addition of water and a hose to remove the excess mixture of water and dirt. This allows for better control of the excavated dirt. Through this construction method, dirt is not expected to loosen and freefall from the cliff side, into the Black abalone habitat/EFH at the intertidal zone or onto Sycamore Cove Beach if California least terns or Western snowy plovers are present. Nonetheless due to
the sensitivity of the habitat and species, Caltrans proposes a debris blanket with slit fencing BMP to hold sedimentation on the dirt slope, as described in BIO-1 in Section 2.15 Wetlands and Other Waters. Both rock fall and sedimentation would be contained in the debris blanket.

In addition to the debris blanket, full-time biological monitoring will be conducted during construction as mentioned in BIO-2 in Section 2.17 Animal Species. A qualified biologist will be on site to ensure a debris blanket BMP is installed, utilized, and fully functional during construction to minimize or prevent sedimentation from entering the rocky intertidal zone and adjacent kelp forest. Biological monitoring will involve documentation and photography of all daily work activity, as well as, any impacts to the underlying rocky intertidal zone and adjacent kelp forest.

Because excavation will be minimal, the catchment device is expected to successfully prevent incidental debris from entering the roadway below. Alternative 1 – Cantilever Option would result in none to potentially minimal incidental sedimentation, which is not expected to significantly impact neither the black abalone species, EFH, California least terns, nor Western snowy plovers. There is still potential for sedimentation to enter the rocky intertidal zone, should the debris blanket BMP fail. In response to the potential to directly impact the intertidal zone, mitigation is proposed for this alternative and described in Section 2.18.4 Avoidance, Minimization, and/or Mitigation Measures. Project impacts for this alternative are summarized in Table 2.13.

**California Least Tern and Western Snowy Plover**

As mentioned previously, California least terns and Western snowy plovers utilize sandy beaches as habitat for nesting and foraging. The 2 bird species are not known to inhabit Sycamore Cove Beach regularly, but because suitable habitat is present, the following project feature will be incorporated to determine presence of endangered bird species:

**BIO-13 Preconstruction bird surveys for the California least tern and Western snowy plovers will be performed by a qualified biologist on Sycamore Cove Beach to determine whether the species are present.**

Although the likelihood of encountering the endangered bird species is low, Caltrans will exhibit due diligence to ensure the species will not be impacted during project construction. Therefore, through use of the debris blanket BMP and the bird surveys, impacts to the California least tern and Western snowy plovers are expected to be less than significant.

**Alternative 2 – Ground Anchor Option**

**Black Abalone and Essential Fish Habitat**

Alternative 2 – Ground Anchor Option will require drilling CIDH piles, similarly to Alternative 1 – Cantilever Option. However, in addition to vertical cement piles running into the ground, Alternative 2 – Ground Anchor Option also involves metal anchors extending perpendicularly from the piles, into the slope. The anchors will be placed about 4 feet deep from the ground surface and a series of anchors will be placed throughout the entire length of the wall. Each individual anchor will be planted into the face of the slope, ultimately lying underneath the roadway.

In order to install the anchor, the face of the slope will need to be excavated in order to gain access to the face of the piles. An area of 4 feet deep and 24 feet wide, will be excavated from the face of the slope for installation of the anchors and vertical drilling of the piles. CDFW and NOAA Fisheries Service
are concerned about the possibility of debris from this excavation work, dislodging from the cliff side and impacting the EFH and black abalone habitat below during construction.

The amount of dirt required for removal is expected to be considerable. Should all the dirt removed during construction freely enter the waterway, considerable direct impacts to the black abalone habitat would be experienced. Debris can strike the black abalone causing both severe physical damage to the species and knocking them off their placement on the rocky substrate. Similarly, the input of dirt into the waterway can have indirect and temporary impacts to the kelp forest. The turbidity plume and physical impact of debris burying the kelp forest, can hinder kelp-growth as a short-term effect.

In order to reduce the amount of dirt entering sensitive habitat, BMPs will be implemented to reduce impacts. It is Caltrans’ objective to reduce direct and indirect impacts to both the black abalone habitat and EFH. A debris blanket with a silt fence to stop sediment is proposed to contain the loosened dirt on the slope side and avoid entering the ocean. The rock fall catchment device would be designed to stand structurally on the side of the vertical slope and hold small granulated debris onto the slope during construction until crews can remove the loosened debris with a crane and discard the debris according to Caltrans standard practices.

The project feature BIO-1, mentioned in Alternative 1 – Cantilever Option, is also proposed for Alternative 2 – Ground Anchor Option. Both rock fall and sedimentation would be contained in the debris blanket BMP. In addition to project feature BIO-1, the project feature BIO-2 mentioned in Alternative 1 – Cantilever Option is also proposed for this alternative. Biological monitoring will involve documentation and photography of all daily work activity, as well as, any impacts to the underlying rocky intertidal zone and adjacent kelp forest. Through these measures, impacts to black abalone and EFH are expected to be reduced to less than significant.

**California Least Tern and Western Snowy Plover**

Aside from debris entering the roadway and impacting black abalone and EFH, loosened debris that lands on Sycamore Cove Beach from construction activities at PM 4.2 could potentially affect nesting California Least Terns and Western Snowy Plovers if they are present. Both bird species have not been known to use Sycamore Cove Beach for either nesting or roosting according to USFWS. As such, construction activities are not expected to impact either bird species despite the habitat for the birds to be present. However, the bird surveys described in BIO-13 will also be performed for this alternative in order to confirm that neither species is present on the beach. The impacts for each alternative is summed up in Table 2.13 below.
Table 2.13: Summary Table of Biological Impacts for Each Alternative

<table>
<thead>
<tr>
<th>Habitat at location PM 4.0</th>
<th>Habitat location at PM 4.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underlying Rocky Intertidal/Abalone Habitat</td>
<td>Kelp Forest and Essential Fish Habitat</td>
</tr>
<tr>
<td>CA Grunion Habitat</td>
<td>No impact due to absence of habitat.</td>
</tr>
<tr>
<td>No impact due to absence of habitat.</td>
<td>No impact due to absence of habitat.</td>
</tr>
<tr>
<td>No impact due to absence of habitat.</td>
<td>No impact due to absence of habitat.</td>
</tr>
<tr>
<td>No impact due to absence of habitat.</td>
<td></td>
</tr>
<tr>
<td>No direct or indirect sedimentation impacts would occur on the beach due to debris blanket BMP.</td>
<td>No work shall occur during grunion spawning nights (full moon and high tide nights). Biological monitoring will be conducted during construction night work from sunset to sunrise.</td>
</tr>
<tr>
<td>No work shall occur during grunion spawning nights (full moon and high tide nights). Biological monitoring will be conducted during construction night work from sunset to sunrise.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Habitat at location PM 4.0</th>
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<td>No impact due to absence of habitat.</td>
</tr>
<tr>
<td>No impact due to absence of habitat.</td>
<td>No impact due to absence of habitat.</td>
</tr>
<tr>
<td>No impact due to absence of habitat.</td>
<td></td>
</tr>
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<td>No direct or indirect sedimentation impacts would occur on the beach due to debris blanket BMP.</td>
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<tr>
<td>No work shall occur during grunion spawning nights (full moon and high tide nights). Biological monitoring will be conducted during construction night work from sunset to sunrise.</td>
<td></td>
</tr>
</tbody>
</table>

*Alt is abbreviated for “alternative”
Alternative 3 – No Build Alternative
Existing conditions would remain, causing no impacts to threatened or endangered species and EFH. Erosion would continue to naturally occur and the species would instinctively adapt to the changes in the environment. The natural changes would not abnormally impact black abalone or kelp forests.

2.18.4 Avoidance, Minimization, and/or Mitigation Measures
Alternative 1 – Cantilever Option
The minimal indirect impacts to the kelp forest if the debris blanket BMP were to fail, would be introduced sedimentation and temporary increased turbidity. Since these impacts are minimal, no mitigation is proposed for the kelp forest habitat. When considering impacts to the black abalone habitat in the rocky intertidal zone, excavation of the slope face is not proposed and as such, less sedimentation is at risk for entering the habitat. Direct impacts to the black abalone habitat are expected to be minimal if the debris blanket BMP fails. Although impacts are considered minimal should the debris blanket fail, mitigation is still proposed due to the sensitivity and unique habitat for the endangered species.

In order to assess the degree of impact from the failed BMP for mitigation consideration, post construction surveys will be conducted as follows:

BIO-14 Qualified Caltrans biologists shall conduct a post construction survey of the rocky intertidal zone, which encompasses the black abalone habitat, to assess and quantify any direct sedimentation and rock fall impacts caused by construction activities to the black abalone habitat.

In the event that any direct impacts to the rocky intertidal zone are discovered during the post construction survey, the following mitigation measure would be implemented:

BIO-15 Caltrans, in coordination with NOAA Fisheries Service, will mitigate the impacts by restoring the rocky intertidal zone with a 1:1 acreage ratio by performing the following: removing encrusting organisms to create space for crustose coralline algae and other intertidal species to inhabit and reintroducing black abalone to maintain habitat and support a diverse biological community. If Caltrans is unable to perform these activities, providing funds for restoration or enhancement to a conservancy recommended by NOAA Fisheries Service will also be used as a mitigation option.

The measure would mitigate any unforeseen construction impacts to the rocky intertidal zone that is revealed during the post-construction survey by ensuring that the habitat is restored to pre-construction conditions. Through these measures, the habitat would be fully restored to the condition prior to project construction and impacts to the rocky intertidal zone would be mitigated to less than significant.

Alternative 2 – Ground Anchor Option
The kelp forest would only be indirectly and temporarily impacted by increased turbidity from incidental sedimentation during construction, if the debris blanket BMP fails. Therefore, no mitigation is proposed for the kelp forest because if the debris blanket was to fail, impacts to the kelp forest would be temporary and less than significant. Impacts to the rocky intertidal zone, where the black abalone habitat exists, would be direct and considerable should the debris blanket BMP fail. The direct impact from increased sedimentation and loosened debris would require mitigation in the unlikely event that the debris blanket BMP fails.
Caltrans biologists shall conduct a post construction survey of the rocky intertidal zone, as described in BIO-14. If direct impacts are identified, Caltrans in coordination with NOAA Fisheries Service, will mitigate the impacts by restoring the rocky intertidal zone with a 1:1 acreage ratio as explained in BIO-15. Compensatory mitigation is proposed if Caltrans is unable to perform the mitigation activities. These mitigation measures are intended to alleviate any impacts to the rocky intertidal zone that were created by project construction activities. The implementation of the mitigation measures would restore the habitat to pre-construction conditions and reduce impacts to the rocky intertidal zone to less than significant with mitigation.

Alternative 3 – No Build Alternative
The No Build Alternative would not change or introduce any new material into the habitats or individual species enlisted as threatened or endangered. The alternative will not impact EFH either, but rather maintain the same conditions as present. Therefore, no avoidance, minimization, and/or mitigation measures will be necessary.

2.19 Invasive Species

2.19.1 Regulatory Setting
On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State’s invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

2.19.2 Affected Environment
The Cal IPC inventory was reviewed to determine the invasive plants present in the project area. In addition to the inventory search, Caltrans biologists surveyed the project area in order to investigate the presence of invasive species, as summarized in both the NES (Caltrans Division of Environmental Planning) prepared on February 2018 and the NES (Amended) on October 2018. The project area at PM 4.0 was found to consist of primarily bare ground (60% ground cover), purple fountain grass (Pennisetum setaceum, 35% ground cover), and a mixture of laurel sumac (Malosma laurina) and lemonadeberry (Rhus integrifolia, 5% ground cover). The project area at PM 4.2 is made up of laurel sumac (Malosma laurina, 30%), lemonadeberry (Rhus integrifolia, 30% ground cover, and a mixture of purple fountain grass (Pennisetum setaceum rubrum) and tree tobacco (Nicotiana glauca, 40% ground cover). Purple fountain grass and tree tobacco are classified as invasive species by the California Invasive Species Advisory Committee.

The California Invasive Species Advisory Committee is a State-sponsored entity that was established in 2009 to inform and advise the Invasive Species Council of California on matters related to invasive species in the state. One of its tasks is to create a list of “invasive species [both plants and animals] that have a reasonable likelihood of entering or have entered California for which an exclusion, detection, eradication, control or management action by the state might be taken.”

The Cal-IPC is a 501(c)(3) nonprofit organization established in 1992 to protect California’s lands and waters from ecologically damaging invasive plants. Cal-IPC maintains the California Invasive Plant Inventory, 30 which is a comprehensive list of invasive plants based on their ecological impacts. The plants on the list are also given a rating of “high”, “moderate”, “limited”, or “alert” to each species depending on the degree of threat it poses to natural plant and animal communities in California. Purple fountain grass and tree tobacco both contain Cal-IPC ratings of moderate.

2.19.3 Environmental Consequences

Alternative 1 – Cantilever Option
Construction of the secant wall with Alternative 1 – Cantilever Option will require minimal plant removal. If plants are growing in an area where the piles will be drilled, the plant will need to be removed. Based on the ground coverage percentages however, bare ground is more likely to be encountered at PM 4.0 and native plants are more likely to be encountered at PM 4.2. Invasive plants are less likely to be encountered. But if invasive plants are encountered, they will be removed which will inhibit the spread of invasive plants. Native plants will be planted when appropriate.

Invasive plants have the potential to be spread via entering and exiting construction vehicles and equipment that may have been contaminated by invasive plant species. Therefore, the following measures will be used to prevent the spread of invasive species:

BIO-16 All equipment and materials will be inspected for the presence of invasive species prior to use. In compliance with the EO 13112 and guidance from FHWA, replanting for landscaping and erosion control will not be done with any species listed as invasive. Furthermore, the area will be replanted with natives when appropriate, in order to promote healthy coastal sage scrub habitat.

BIO-17 All construction equipment shall be thoroughly washed at the construction yard before being transported to the project site to avoid spreading invasive to the project site.

Alternative 2 – Ground Anchor Option
Alternative 2 – Ground Anchor Option will require 4 feet of excavation for an area of about 25 feet wide and for the length of each wall (200 feet and 600 feet). This will cause invasive plants to be removed if they are encountered within the project excavation area. This alternative will be able to remove more invasive plants than Alternative 1 – Cantilever Option and further inhibit the spread of invasive plants.

Like Alternative 1 – Cantilever Option, invasive plants have the potential to be spread via entering and exiting construction vehicles and equipment that may have been contaminated by invasive plant species. The same project features INV-1 and INV-2 proposed for Alternative 1 – Cantilever Option are also proposed for Alternative 2 – Ground Anchor Option.

Alternative 3 – No Build Alternative
All existing conditions will remain and no impacts or improvements to invasive species would occur.

2.19.4 Avoidance, Minimization, and/or Mitigation Measures
Alternatives 1 and 2 – Build Alternatives
No avoidance, minimization, and/or mitigation measures would be required.

Alternative 3 – No Build Alternative
No avoidance, minimization, and/or mitigation measures would be required.

2.20 Cumulative Impacts

2.20.1 Regulatory Setting
Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations (CFR) Section 1508.7.

2.20.2 Affected Environment
The proposed project involves the construction of two secant walls to protect PCH from slope erosion due to storm damage. The project would not pose any potential to influence growth or development into the surrounding undeveloped lands because it is not capacity increasing by design. In addition, the general project area along the roadway is spatially restricting with the Pacific Ocean to the west and the Santa Monica Mountains to the east. Projects are limited by the lack of space for construction due to the physical features within the area.

The land use designation of the proposed project also limits significant growth and development due to the Ventura County General Plan. The proposed project is located within an area zoned as open space in the Ventura County General Plan. The Ventura County Planning Division places heavy restrictions on new development within lands designated as Open Space to protect natural resources and maintain the rural character of the county’s open lands. Development and population density is zoned to areas designated as cities within the county. Due to the land use restrictions and geographic setting within the area, few development projects are proposed in the area. As a result, agency websites for Ventura County Public Works and Ventura County Planning Division were reviewed on September 4, 2018 and no projects were found to be proposed within the area.
Proposed projects that are located within the general project area are: 6 projects by California Department of Parks and Recreation and 3 projects by Caltrans (Table 2.14). The 3 Caltrans improvement projects were identified to have the potential to contribute to localized cumulative impacts if the appropriate planning and implementation strategies are not deployed. Of the 3 projects, 2 are likely to commence construction after completion of this document’s proposed project. The remaining project (EA 30330) would require close coordination to minimize short-term, cumulative effects that may result from consecutive work and construction activities.

### 2.20.3 Environmental Consequences

Selection of the project-specific resources to consider for cumulative effects analyses is based on the degree of impact. The resources that could potentially be directly or indirectly impacted by the proposed project are included in the following discussion. Resources that have little to no potential to be impacted by the proposed project either directly or indirectly, will not contribute to cumulative impacts and as such, are not evaluated or included in the following discussion.

<table>
<thead>
<tr>
<th>Name of Development</th>
<th>Lead Agency</th>
<th>Proposed Use</th>
<th>Status</th>
<th>Distance from Project Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sycamore Canyon Entrance Improvements</td>
<td>California Department of Parks and Recreation</td>
<td>Planting native plants at the Sycamore Canyon campground public parking entrance area. Invasive weeds would be removed and native plants installed on the bare/disturbed areas to improve park aesthetics and habitat values.</td>
<td>Notice of Exemption certified on January 2018</td>
<td>Adjacent to project site</td>
</tr>
<tr>
<td>Electric Vehicle Charging Station Installations</td>
<td>California Department of Parks and Recreation</td>
<td>Installation of two electric vehicle chargers for California Department of Parks and Recreation fleet use within two maintenance yards. One maintenance yard being in Point Mugu State Park.</td>
<td>Notice of Exemption certified on December 2017</td>
<td>Adjacent to project site</td>
</tr>
<tr>
<td>Sycamore Cove Fire Rings</td>
<td>California Department of Parks and Recreation</td>
<td>Installation of four fire rings and three coal receptacles within Sycamore Cove campground. Two ADA accessible fire pits are also proposed.</td>
<td>Notice of Exemption certified on September 2017</td>
<td>Adjacent to project site</td>
</tr>
<tr>
<td>Point Mugu Upper Sycamore Canyon Trail Repair</td>
<td>California Department of Parks and Recreation</td>
<td>Repair an equestrian trail within upper Sycamore Canyon that was severely eroded after rain events following the 2013 Springs Fire, by constructing a retaining wall from native rock.</td>
<td>Notice of Exemption certified on October 2017</td>
<td>Adjacent to project site</td>
</tr>
<tr>
<td>Sycamore Cove Day Use Accessibility Improvements</td>
<td>California Department of Parks and Recreation</td>
<td>Construct accessibility improvements on the facilities within Point Mugu State Park. The improvements include, but are not limited to, modifications to: restroom shelters, portable restrooms, accessible parking, signage, paths of travel, water stations, showers, and trash receptacles.</td>
<td>Notice of Exemption certified on August 2017</td>
<td>Adjacent to project site</td>
</tr>
<tr>
<td>Automated Pay Machines at Point Mugu State Park</td>
<td>California Department of Parks and Recreation</td>
<td>Installation of seven automated pay machines (APM) in existing parking lots within Point Mugu State Park. One APM will be installed at Sycamore Canyon</td>
<td>Notice of Exemption certified on February 2016</td>
<td>Adjacent to project site</td>
</tr>
</tbody>
</table>
Campground and three installed within Sycamore Cove Beach.

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Agency</th>
<th>Details</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Sycamore Creek Project (EA 33350)</td>
<td>Caltrans</td>
<td>Replacement of the existing Rock Slope Protection and construction of a new seawall from post mile 4.5 to 4.6 on PCH. A secant wall to protect the abutments of Big Sycamore Bridge and stabilize the west side of the highway is also proposed.</td>
<td>Preliminary design phase starting in 2020</td>
</tr>
<tr>
<td>Pavement Rehabilitation (EA 30330)</td>
<td>Caltrans</td>
<td>Cold planing of 0.2 feet of asphalt pavement and overlaying with 0.2 feet of rubberized hot mix asphalt from PM 0.0 – 4.4 along PCH. Replacement of Metal Beam Guard Rail with Midwest Guardrail System is also proposed.</td>
<td>Design phase completed on April 2018. Advertising to follow</td>
</tr>
<tr>
<td>Construct BMP’s for Stormwater Mitigation (EA 32270)</td>
<td>Caltrans</td>
<td>Construction of storm water best management practices throughout the following locations in Ventura County PCH from PM 0.0 – 28.5, SR-101 from PM 22.0 – 43.6, SR-34 PM 4.3 – 17.7, and SR-150 PM 2.5 – 34.4.</td>
<td>Preliminary design phase in progress</td>
</tr>
</tbody>
</table>

**Biological Environment**

The project is located on PCH along the coastline with the Pacific Ocean to the west and the Santa Monica Mountains to the east. The project is proposed along cliff sides that terminate into the ocean at PM 4.0 and onto Sycamore Cove Beach at PM 4.2. The close proximity to the ocean and beach makes the project area sensitive to biological resources. At the base of the cliff side at PM 4.0 is black abalone habitat in the intertidal zone and kelp forest. Adjacent to PM 4.2 is Sycamore Cove Beach which is used by California grunion for spawning events. Within the general project area, bat surveys identified Mexican free-tailed bats to be present.

Impacts to California grunion and Mexican free-tailed bats would be avoided and/or minimal as a result of construction windows. Therefore, these two resources will not be analyzed for cumulative impacts because the proposed project itself would have a minimal impact on these two resources. The black abalone habitat and EFH will be analyzed for cumulative impacts because, although impacts will be reduced by the incorporation of BMPs, impacts would be substantial in the unlikely event that the BMPs fail.

The black abalone habitat and EFH at PM 4.0 could be impacted by increased sedimentation onto the habitats. These habitats have been subject to sedimentation loading due to landslides from the Santa Monica Mountains following the 2013 Camarillo Springs and wave induced slope erosion from extreme storm events. These impacts however are naturally caused and not project-related.

Nevertheless, this project was proposed to serve as a permanent solution for wave induced slope erosion. These habitats were possibly impacted when temporary projects were constructed. Caltrans project EA 4X370 deployed large boulders in the intertidal zone and base of the slope to dissipate wave energy for the stabilization of PCH, which had become compromised from severe storm events. The intertidal zone houses the black abalone habitat, and kelp forest is found at the base of the slope. It is possible that the habitats were buried from sedimentation from natural erosion, then the large boulders
were placed over this sedimentation. In which case the project-related impacts on the black abalone habitat and kelp forest would be minimal because the naturally-caused impacts were so substantial.

Since construction of EA 4X370, the black abalone habitat and kelp forest have rebounded to healthy, rich habitats. This proposed project is designed to protect the health of the two sensitive habitats. A debris blanket BMP will be deployed and biological monitoring will be conducted. In the unlikely event that the debris blanket BMP fails, mitigation will be proposed. The other projects proposed within the area are not expected to impact these habitats because the projects are restricted to the roadway, not the cliff side. All projects mentioned in Table 2.14 are general maintenance projects that will not drastically alter the biological sensitive habitats. No capacity increasing projects are proposed in the foreseeable future. Therefore, these projects would not contribute to an adverse cumulative impact on biological resources.
Chapter 3: California Environmental Quality Act (CEQA) Evaluation

3.1 Determining Significance Under CEQA

The proposed project is a joint project by the Caltrans and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA’s responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans. Caltrans is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or a lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) as a whole has the potential to “significantly affect the quality of the human environment.” The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require Caltrans to identify each “significant effect on the environment” resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of “mandatory findings of significance,” which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. The words “significant” and “significance” used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as BMPs and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance.
determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

### 3.2.1 Aesthetics

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Have a substantial adverse effect on a scenic vista?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c) Substantially degrade the existing visual character or quality of the site and its surroundings?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

a) **No Impact**: Although PCH is not considered a scenic highway because the County of Ventura has not sought designation, the highway does offer natural scenic vistas that are highly valued by travelers. The secant walls will be constructed to stand entirely underground which will not impact the scenic vista to the west, including the Pacific Ocean and beach front. The guardrails will be replaced only 2 inches taller than what was originally installed and is not expected to impact the motorist’s views of the scenic vistas. Lastly, coordination between Caltrans Traffic and regulatory agencies will determine whether the k-rail and fencing that is installed on the northbound shoulder of the project limits will be removed, enhancing the scenic vista of the mountain cut on the viewseshd to the east of travelers.

b) **No Impact**: No scenic resources within the eligible state scenic highway would be impacted.

c) **No Impact**: The existing visual character of the site will not be degraded because the proposed project would not block views of the scenic vistas and natural conditions will be restored.

d) **No Impact**: The project is not proposing any project features that involve lighting or would result in glares.
3.2.2 Agriculture and Forest Services

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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>d) Result in the loss of forest land or conversion of forest land to non-forest use?</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?</td>
<td>☐</td>
<td>☐</td>
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</tr>
</tbody>
</table>

a) **No Impact:** No Farmland exists within the project area.
b) **No Impact:** The zoning within the project area according to the Ventura County General Plan is recreational use, not agricultural use. There are no parcels under a Williamson Act contract within the project limits.
c) **No Impact:** The project area is not zoned as forest land or timberland. There are no forest or timberlands within the project limits.
d) **No Impact:** The proposed project would not result in the loss of forest land or convert forest land into non-forest land. There are no forest or timberlands within the project limits.
e) **No Impact:** The proposed project would not result in changes to the existing environment that would convert farmland into non-agricultural use or convert forest land into non-forest use.
### 3.2.3 Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Conflict with or obstruct implementation of the applicable air quality plan?</td>
<td></td>
<td></td>
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<tr>
<td>b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?</td>
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</tr>
<tr>
<td>c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>d) Expose sensitive receptors to substantial pollutant concentrations?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Create objectionable odors affecting a substantial number of people?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**a, b, c, d) Less Than Significant Impact:** The proposed project is located in the South Central Coast Air Basin (SCCAB) and is within the jurisdiction of the Ventura County Air Pollution Control District (VCAPCD), which is the primary agency responsible for attaining state and federal air quality standards in the SCCAB. Therefore this project must comply with the VCAPCD Dust Implementation Rule 55 to minimize temporary emissions during project construction. Temporary construction emissions is the only air quality impact this project will impose because the project is not a capacity-increasing transportation project and will not have a permanent impact on traffic volumes. The project would generate a less than significant amount of pollutants during construction due to the very short duration of project construction (1 year). The project is located in an area that is in non-attainment for State PM10 and ozone standards; and non-attainment for Federal ozone standard. The project is expected to have a neutral influence on both of these pollutants because the project is considered an exempt project pursuant to 40 CFR 93.126 and is not expected to result in a significant increase in the number of diesel vehicles or increase in vehicle idling that would impact PM10 emissions. In addition, the latest 2016 Air Quality Management Plan (AQMP) incorporates a comprehensive strategy aimed at controlling pollutions in an effort to bring the County in attainment of the applicable federal ozone standard by 2020. The 2016 AQMP control strategy consists of a local component implemented by the VCAPCD, including emission control measures from previous plans with new and further study emission control measures. These measures will be incorporated into the project as applicable to reduce ozone concentrations. Therefore the proposed project would not conflict with AQMP, violate any air quality standard, or result in a net increase of any criteria pollutants. No sensitive receptors exist within the project area, thus will not be exposed to substantial pollutants.
e) **No Impact:** Neither the constructed project or temporary construction activities are expected to emit any objectionable odors that would affect a substantial number of people.

### 3.2.4 Biological Resources

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>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 US Fish and Wildlife Service?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>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?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>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?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
</tbody>
</table>

a) **Less Than Significant with Mitigation Incorporated:** Suitable black abalone habitat was found within the intertidal zone by PM 4.0 where a secant wall is proposed. Black abalone surveys were conducted by biologists from Caltrans, private consultants, and NOAA Fisheries Service. Black abalone were found absent from this location. However, in order to protect the intertidal zone where the black abalone habitat exists, a debris blanket with silt fencing will be installed to prevent loose debris from degrading the habitat. Full-time biological monitoring will be conducted to ensure that the debris blanket BMP is installed, utilized, and fully functional during
secant wall construction. Should the habitat be degraded by project construction, Caltrans will conduct mitigation for both build alternatives as described in Threatened and Endangered Species Section 2.18. The proposed mitigation measures would reduce impacts to less than significant with mitigation.

The California least tern and Western snowy plover nest and winter on sandy beaches along the California coastline. The sandy beach on Sycamore Cove Beach meets the habitat criteria of both endangered species. Although neither bird species are known to occur at this small beach for nesting or roosting, suitable habitat is present and preconstruction nesting bird surveys will be conducted to ensure that no nests or endangered birds would be impacted during construction. As such, impacts to the California least tern and Western snowy plovers is expected to be less than significant.

The Mexican free-tailed bat is known to roost in rocky caves. The species was identified during a bat survey conducted by Caltrans biologist and is found to potentially roost in close proximity to the project during construction. The project area contains several rocky cliffs, cliff faces, and crevices that the bat species can use for roosting. In order to prevent construction activities from affecting the bat, several project features have been proposed to minimize and avoid impacts as described in Section 2.17 Animal Species. These project features would reduce impacts to the bat species to less than significant.

b) **Less Than Significant Impact**: The CNDDB Species list showed EFH is present within the project area. Kelp forest exists within ocean and borders the intertidal zone at PM 4.0. Kelp forest is classified as 3 types of EFH: Groundfish Essential Fish Habitat, Coastal Pelagic Essential Fish Habitat, and Highly Migratory Essential Fish Habitat. Kelp forests harbor a wider variety of diverse plants and animals than almost any other ocean community. Many organisms, especially fish, use kelp forests as safe shelter from predators or rough storms and are a good source of food. The project may impact the kelp forest at PM 4.0 by introducing loosened dirt from the excavated slope face into the waterway. The additional dirt and debris can impact the kelp forest by increasing turbidity and physically burying the kelp. These impacts can hinder kelp-growth as a short-term effect. In order to reduce impacts to less than significant, dirt must be restricted from entering the waterway and potentially impacting the kelp forest. Therefore, a project feature to minimize impacts was included into the project scope as mentioned in Section 2.18 Threatened and Endangered Species. The project feature calls for a debris blanket and fencing to be installed to hold the debris on the slope, where it can be easily removed and discarded. From this added project feature, the impacts to sensitive natural communities was reduced to less than significant.

c) **Less Than Significant Impact**: Section 404 of the Clean Water Act requires a permit before dredged or fill material may be discharged into waters of the United States. The construction activities required for the proposed project have the potential to discharge dredged material into the Pacific Ocean, which is a water of the United States. A Section 404 permit would be required for the proposed project, but discharge of dredged material is considered a less than significant impact because of project features intended to minimize impacts. A debris blanket and fencing would be installed along the slope to slow and hold debris in place so that less
debris is discharged into the ocean. Reducing the amount of loose soil and debris from entering the Pacific Ocean creates the adverse effect to Section 404 waters less than significant.

d) **Less Than Significant Impact:** California grunion are native fish that use sandy beaches to spawn. Grunion surveys determined California grunions using Sycamore Cove Beach adjacent to PM 4.2 for spawning activities. Construction of the secant wall at PM 4.2 could impact the California grunion spawning habitat due to excavation of the slope. Although all work will be done on the roadway and no equipment will be placed on the beach, sedimentation from the slope may land on the beach during construction. Caltrans will avoid night work during grunion spawning nights which are on full moon and high tide nights. This will ensure that debris will not land on the California grunion when they are out of the water and on the beach during spawning events.

e) **No Impact:** The Ventura County LCP grants certain protections to trees classified as protected trees within the coastal zone of the county. The plan has a Tree Protection Goal of “protect trees that function as important biological, watershed, visual beauty, provide historic resources within coastal areas of Ventura County.” None of the alternatives propose removal of a protected tree, as defined in the Ventura County LCP. The proposed project would have no impact on local policies or ordinances protecting biological resources.

f) **Less Than Significant Impact:** No habitat conservation plan or natural community conservation plan are designated within the project impact area. However, the project is found within the CEHC, as described in Section 2.14 Natural Communities. The CEHC works to identify large expansions of intact habitat or natural landscape and identify linkages between them, in an effort to conserve wildlife corridors. A map will be created from the information gathered by the CEHC Project. The CEHC Project is not a habitat conservation plan but results from the CEHC Project are intended to be used to inform conservation plans31. Therefore, the information generated from the CEHC is important for conservation plans and the CEHC map represents wildlife corridors within Caltrans which should not be restricted. The proposed project site is located at the very edge of the CEHC map and was not found to prevent wildlife movement within the CEHC. The proposed project would have a less than significant impact on any habitat or natural community conservation plan or the CEHC map.

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### 3.2.5 Cultural Resources

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?</td>
<td>❌</td>
<td>📋</td>
<td>❌</td>
<td>☑️</td>
</tr>
<tr>
<td>b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?</td>
<td>❌</td>
<td>📋</td>
<td>❌</td>
<td>☑️</td>
</tr>
<tr>
<td>c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</td>
<td>❌</td>
<td>📋</td>
<td>❌</td>
<td>☑️</td>
</tr>
<tr>
<td>d) Disturb any human remains, including those interred outside of dedicated cemeteries?</td>
<td>❌</td>
<td>📋</td>
<td>❌</td>
<td>☑️</td>
</tr>
</tbody>
</table>

**a) No Impact:** After consultation with the various databases and sources mentioned in Chapter 2 Cultural Resources, the APE was not found to contain any historic, architectural, or archaeological resources. It was determined that there are no National Register of Historic Places listed or eligible cultural resources, within the project’s APE. As a result, no cultural resources qualify as historical resources pursuant to CEQA, or are exempt per the Section 106 Programmatic Agreement. No built environment resources exist within the APE and none were evaluated. This is reflected in the No Historic Properties Affected finding made in the project’s HPSR.

**b) Less than Significant Impact:** The area surrounding the APE contains archaeological resources because the general coastal area in Ventura County was heavily used by Native Americans. The landscape contained woodland and coastal habitats with an abundance of resources that supported the Chumash Indians. The project’s actual APE was thoroughly reviewed with archival research, Native American consultation, and a field survey by Caltrans archaeologist. After completion of the research, the project’s APE was not found to contain any archaeological resources. The project location is outside of the known Native American sites and the area had been altered when PCH was first constructed in the 1920’s.

However, there is always a potential for previously undocumented cultural materials to be unearthed during construction activities. It is Caltrans’ policy that if cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area be halted until a qualified archaeologist can assess the nature and significance of the find. Potential effects to these materials would be avoided and/or minimized with the inclusion of project feature CUL-1 mentioned in Section 2.7 Cultural Resources. Therefore, any impacts would be less than significant.
c) **No Impact**: Paleontological resources or unique geological features were not found within the APE, after review of databases and field survey. Therefore, the project does not have the potential to impact such resources.

d) **Less Than Significant Impact**: As discussed in Section 2.7 Cultural Resources, the area was highly disturbed during the creation of PCH which makes the area unlikely for encountering human remains during construction. After investigation of the APE, it was determined that there is no potential to encounter human remains during project construction. However, there is always a potential for previously undocumented cultural materials or human remains to be unearthed during excavation activities. If human remains are discovered, the State of California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). At this time, the Caltrans Resident Engineer will contact Caltrans District 7 Environmental Branch so that they may work with the MLD on the respectful treatment and disposition of the remains. Therefore, any potential impacts to human remains would be less than significant.

### 3.2.6 Geology and Soils

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</td>
<td></td>
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</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>ii) Strong seismic ground shaking?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
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<tr>
<td>iii) Seismic-related ground failure, including liquefaction?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>iv) Landslides?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b) Result in substantial soil erosion or the loss of topsoil?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tbody>
</table>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

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</table>

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

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</table>

i. **No Impact**: The project is not expected to rupture a known fault anywhere within the vicinity.

ii. **No Impact**: The project site is located within a seismically active area in which the Santa Monica Mountains are actively undergoing compressing. The constructed project may experience seismic activity, however the project is not expected to be a potential risk of loss, injury, or death because the secant walls would exist entirely submerged underground.

iii. **No Impact**: The construction project may experience seismic activity and even liquefaction, but because the secant walls would exist underground, they would not be a potential risk of loss, injury, or death.

iv. **No Impact**: The surrounding Santa Monica Mountains make the project area vulnerable to landslides during heavy rain events, especially rainy seasons that follow intense wildfires. Landslides can move large amounts of soil on top of the already submerged proposed secant walls. The secant walls are designed to uphold and support the slope of PCH. The landslide would add additional load to the wall however since the walls would be constructed underground, the load is expected to be sustained by the wall. Therefore there would be no impact to loss, injury or death involving landslide.

b) **Less Than Significant Impact**: The project would not result in substantial soil erosion. The intent of the proposed project is to prevent soil erosion from the slope of PCH. The project would prevent destructive slope erosion from continuously impacting the project area and further eroding the coastline. During construction, excavated soil in the construction areas would be exposed and there would be an increased potential erosion, especially during a storm event. Project construction would use debris blankets and other erosion/debris control measures to hold loosened debris on the slope. Additionally construction will last 1 year so the exposure of the construction areas would be short-term.

In terms of top soil, the 2 build alternatives differ in their impacts. Alternative 1 – Cantilever Option would only remove the top soil that is the diameter of the piles and needed to construct the piles for the secant walls. Alternative 2 – Ground Anchor Option would require the face and top of the slope to be removed for installation of the anchor. The top soil would be removed and replaced with fill soil, although soil from the site would be reused as appropriate. These impacts to topsoil are considered to be less than significant because the amount of topsoil removed would only be the length and width of the walls.

c) **No Impact**: The soil within the project site was found stable enough to construct the secant walls. The soil is not located on a geologic unit that is unstable or have the potential to become unstable from result of the project.

d) **No Impact**: The project area is not located on expansive soils; therefore the project would not have substantial risks to life or property.
e) **No Impact:** The project is located in an area that is underdeveloped, without community residents. The project site itself is on the roadway, abutting the Pacific Ocean. This immediate project area does not contain septic tanks or alternative waste water disposal systems. The ability for these soils to contain the possibility of supporting septic tanks or alternative waste water disposal systems is mute because the area would not be used in this manner in the future as a result of the proposed project.

### 3.2.7 Greenhouse Gas Emissions

<table>
<thead>
<tr>
<th>Would the project:</th>
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<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</td>
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</tbody>
</table>

Caltrans has used the best available information based to the extent possible on scientific and factual information, to describe, calculate, or estimate the amount of greenhouse gas emissions that may occur related to this project. The analysis included in the climate change section of this document provides the public and decision-makers as much information about the project as possible. It is Caltrans' determination that in the absence of statewide-adopted thresholds or GHG emissions limits, it is too speculative to make a significance determination regarding an individual project's direct and indirect impacts with respect to global climate change. Caltrans remains committed to implementing measures to reduce the potential effects of the project. These measures are outlined in the climate change section that follows the CEQA checklist and related discussions.

### 3.2.8 Hazards and Hazardous Materials

<table>
<thead>
<tr>
<th>Would the project:</th>
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<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>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?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Question</td>
<td>Impact Category</td>
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</tr>
<tr>
<td>c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</td>
<td>✗</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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?</td>
<td>✗</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?</td>
<td>✗</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?</td>
<td>✗</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</td>
<td>✗</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?</td>
<td>✗</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a) **Less Than Significant Impact:** The proposed project will involve ADL contaminated soil, removal of yellow/white traffic paint, treated wood waste, and electrical equipment. These materials will need to be disposed of at an off-site disposal facility. Exposure to contaminants can be managed to minimal exposure or full avoidance by adhering to protocol for the removal, handling, and disposal of such materials.

b) **Less Than Significant Impact:** Vehicles traveling on highways while transporting hazardous substances, always have the potential to spill and impact the roadway and/or adjacent properties and resources. PCH however is a coastal 2 lane highway that is used more for coastal access and scenic views than transportation. Also, the windy roadway does not make it ideal for truck transportation. Therefore, the likelihood of the project posing a significant hazard to the public due to accident conditions is low and a less than significant impact.

c) **No Impact:** No existing or proposed schools are located within a 0.25-mile radius of the project location. Therefore, hazardous materials would not be emitted or handled within a 0.25 radius of an existing or proposed school.

d) **No Impact:** Government Code section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Hazardous Waste and Substances Sites (Cortese) List. The Cortese List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous

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32 [https://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm](https://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm). Accessed on July 30, 2018
materials release sites. The project is not located on a site that is included in the Cortese List and therefore, not cause a significant hazard to the public or the environment.

e) **No Impact:** The nearest airport is Santa Paula Airport, located about 40 miles from the project site. The project is not located on airport land or within 2 miles of a public (or public use) airport that would result in a safety hazard for people residing or working in the project area.

f) **No Impact:** The project is not within the vicinity of a private airstrip.

g) **No Impact:** PCH will remain open by paving the northbound shoulder of PCH and utilizing this area as a travel through lane. This will allow PCH to remain available for access in any established emergency response/evacuation plan.

h) **No Impact:** The project proposes to construct secant walls to reinforce the stability of the slope upholding PCH. Construction or operation of the project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

### 3.2.9 Hydrology and Water Quality

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Violate any water quality standards or waste discharge requirements?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>f) Otherwise substantially degrade water quality?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td></td>
<td>Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>h)</td>
<td>Place within a 100-year flood hazard area structures which would impede or redirect flood flows?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>i)</td>
<td>Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>j)</td>
<td>Inundation by seiche, tsunami, or mudflow</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

a) **Less Than Significant Impact:** The project will require a 401 Water Quality Certification from the Water Control Board. The certification requires that all project activities comply with applicable water quality standards and limitations. Caltrans has and will continue to coordinate with the Water Control Board to ensure that appropriate measures to meet water quality standards are met during project construction. Therefore, water quality standards and waste discharges would not be violated as a result of careful coordination.

b) **Less Than Significant Impact:** During construction of the secant walls, drilling will be required. Due to the high-water table level at the project location, dewatering will likely be needed to complete drilling for the cast-in-drill hole piles. Dewatering will be temporary and only done to the extent needed for drilling. The amount of dewatering required is not expected to substantially deplete groundwater supplies. In addition, the constructed secant walls will not substantially interfere with groundwater recharge.

c) **No Impact:** The project would not alter the existing drainage pattern of the area that would cause substantial erosion or siltation either on or off-site.

d) **No Impact:** The project would not alter the existing drainage pattern of the area that would increase the rate or amount of surface run-off to produce flooding either on or off-site.

e) **Less Than Significant Impact:** No additional runoff water would contribute to the existing drainage system since the amount of impervious surfaces would not increase. The project would contribute as a point source for polluted runoff during construction. Construction would involve earth-moving activities that have the possibility of adding soil to runoff. To reduce the amount of loose soil that can be washed into runoff, a debris blanket would be used to hold the soil in place. Other measures to reduce soil from entering runoff during construction would be considered and discussed among the Caltrans project development team.

f) **Less Than Significant Impact:** See above response to e).

g) **No Impact:** The project would have no effect on placement of housing within a 100-year flood hazard area.

h) **No Impact:** The project is not located within a 100-year flood hazard area, therefore the constructed secant walls would not be constructed in a 100-year flood hazard area that could potentially impede or redirect flood flows.

i) **No Impact:** The secant walls would be constructed underground and intended to support the slope of PCH. The project would not expose people or structures to some sort of flood risk, including a risk of a failed levee or dam.

j) **No Impact:** The project is found within an area that would be inundated by seiche, tsunami, or mudflow. However the construction of the project would have no impact or influence on the
natural disasters because the secant walls would be underground and used for structural purposes.

### 3.2.10 Land Use and Planning

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Physically divide an established community?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c) Conflict with any applicable habitat conservation plan or natural community conservation plan?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>

a) **No Impact**: The proposed project will not physically divide an established community within the project area.

b) **No Impact**: The proposed project is consistent with the land use goals, policies and regulations established in the Ventura County General Plan and Ventura County Coastal Area Plan, that both cover the project area.

c) **Less Than Significant Impact**: See the above mentioned f) response in the Biological Resources section of Chapter 3.

### 3.2.11 Mineral Resources

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

a) **No Impact**: The project would not 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) **No Impact**: The project scope would not impact a mineral resource recovery site.
### Noise

<table>
<thead>
<tr>
<th>Would the project result in:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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 expose people residing or working in the project area to excessive noise levels?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

**a)** **No Impact:** Project construction would not create a permanent increase in noise levels or not adhere to policies within the Ventura County General Plan. Post-construction noise levels would remain consistent with pre-construction noise levels. The project would have no impact on standards in the local general plan or noise ordinance, or applicable standards of agencies.

**b)** **No Impact:** No sensitive human noise receptors were identified within the project vicinity and no excessive groundborne vibration is expected for project construction.

**c)** **No Impact:** The project will not produce a permanent increase in ambient noise levels within the project vicinity. The noise level within the area will return to pre-construction conditions.

**d)** **Less Than Significant Impact:** During construction, the project area will experience a 3-4 dBA increase from ambient noise levels. This increase is considered a less than significant impact on human receptors according to Caltrans’ Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects (May 2011), that states 12dBA as a substantial increase. Therefore, the construction noise is considered a less than significant impact on human receptors.

**e)** **No Impact:** The closest airport is Santa Paula Airport, located 40 miles from the project area. The project would not expose people within the project area to excessive noise levels.
f) **No Impact:** The project is not within the vicinity of a private airstrip.

### 3.2.13 Population and Housing

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Induce substantial 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)?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[x]</td>
</tr>
<tr>
<td>b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[x]</td>
</tr>
<tr>
<td>c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[x]</td>
</tr>
</tbody>
</table>

- **a)** **No Impact:** The project would not increase capacity of existing transportation facilities and would not induce local or regional growth. Therefore, the project would not result in direct or indirect population growth in the area.
- **b)** **No Impact:** The project would not require any right-of-way acquisitions or cause displacement of communities. Therefore, the project would not result in impacts to housing.
- **c)** **No Impact:** Residential communities are not found within the project vicinity and the project would not impact a community that would require replacement housing.

### 3.2.14 Public Services

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[x]</td>
</tr>
<tr>
<td>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?</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[x]</td>
</tr>
</tbody>
</table>

- **a)** **No Impact:** The proposed project is not expected to increase the use of recreational facilities, such as camping or hiking in Sycamore Canyon Campground or the Santa Monica Mountains Recreation Area. The project scope proposes permanent restoration on the slope upholding PCH. The project will help protect the roadway from deterioration due to erosion and will help secure future access to these recreational facilities. But the project itself will not contribute to an increase in the use of recreational facilities.
b) **No Impact**: The project scope does not include or propose construction of recreational facilities, which might have an adverse physical effect on the environment.

### 3.2.15 Recreation

<table>
<thead>
<tr>
<th>Question</th>
<th>Impact</th>
<th>Mitigation</th>
<th>Impact</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?</td>
<td>Significant and Unavoidable Impact</td>
<td>Less Than Significant with Mitigation Incorporated</td>
<td>Less Than Significant Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td>Fire protection?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Police protection?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Schools?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Parks?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Other public facilities?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
</tr>
</tbody>
</table>

a) **No Impact**: The proposed project would not impact fire protection for the area. PCH would remain open and available for motorists to utilize, including public service vehicles.

b) **No Impact**: The proposed project would not impact police protection for the area; please see the above letter (a).

c) **No Impact**: Schools are not located within or near the project area.

d) **Less Than Significant Impact**: Temporary construction easement from Point Mugu State Park will be required for both build alternatives. Coordination with State Parks has been initiated, as delegated in Section 4(f) of the U.S. Department of Transportation Act of 1966. Sycamore Cove Beach of Point Mugu State Park will remain open during construction to the public and operate as normal. The only areas that would be closed to access are the areas designated for TCE, as they will contain construction equipment and staging. The project will have a less than significant impact on the park.

e) **No Impact**: No other public facilities would be impacted as a result of the proposed project.
### Transportation/Traffic

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?</td>
<td></td>
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<td></td>
<td>❌</td>
</tr>
<tr>
<td>b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?</td>
<td></td>
<td></td>
<td></td>
<td>❌</td>
</tr>
<tr>
<td>c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?</td>
<td></td>
<td></td>
<td></td>
<td>❌</td>
</tr>
<tr>
<td>d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td></td>
<td></td>
<td></td>
<td>❌</td>
</tr>
<tr>
<td>e) Result in inadequate emergency access?</td>
<td></td>
<td></td>
<td></td>
<td>❌</td>
</tr>
<tr>
<td>f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?</td>
<td></td>
<td></td>
<td></td>
<td>❌</td>
</tr>
</tbody>
</table>

**a) No Impact:** The proposed project would not conflict with any applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. The project is only proposing to stabilize the highway and provide permanent protection from the damaging effects of slope erosion. The performance of the circulation is unrelated to the scope of the proposed project.

**b) No Impact:** The proposed project would not conflict with an applicable congestion management plan.

**c) No Impact:** Air traffic patterns would not be changed as a result of the project.

**d) No Impact:** The completion of this project will not change the alignment of the roadway or uses of the project area, nor will there be a substantial increase of hazards due to a design feature.

**e) No Impact:** The highway would remain open with 1 travel lanes in each direction. Emergency vehicles will be able to safely travel through the project area, as previously done prior to construction.
f) **No Impact:** In the 2017 Plan for Improved Agency Partnering between Caltrans and the Commission, the California Coastal Trail is proposed through the project as mentioned in Section 2.2 Coastal Zone. Incorporation of the California Coastal Trail is outside the scope of the proposed project, however the proposed project does not impede future construction of the trail. The proposed project would actually preserve travel on PCH by protecting the roadway from slope erosion. Also the shoulder on northbound PCH would be paved as a result of the project’s traffic management plan. Coordination between Caltrans Traffic and regulatory agencies would determine whether the paved shoulder would remain open for public access following construction, in which case more travel way would be granted to commuters on PCH.

### 3.2.17 Tribal Cultural Resources

<table>
<thead>
<tr>
<th>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:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>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.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

a) **No Impact:** A Sacred Lands File Search was made to the NAHC to determine whether any Native American sacred sites exist within the project area. The search found no Native American sacred sites to exist within the APE, including cultural resources listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources.

b) **No Impact:** As described in Chapter 2.7 Cultural Resources, although the Sacred Lands File Search found no sacred sites within the APE, the NAHC recommended Caltrans contact 6 individuals that may have knowledge of cultural resources within the project vicinity. The 6 individuals were contacted but none provided specific archaeological site information (See Chapter 4.2.4 Native American Coordination). Therefore, the lead agency determined no significant tribal cultural resources to exist within the APE.
### 3.2.18 Utilities and Service Systems

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>X</td>
</tr>
<tr>
<td>b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>X</td>
</tr>
<tr>
<td>c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>X</td>
</tr>
<tr>
<td>d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>X</td>
</tr>
<tr>
<td>e) 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?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>X</td>
</tr>
<tr>
<td>f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>X</td>
</tr>
<tr>
<td>g) Comply with federal, state, and local statutes and regulations related to solid waste?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>X</td>
</tr>
</tbody>
</table>

- **a) No Impact:** The project does not propose nor necessitate incrementally expanding wastewater treatment facilities. Water discharge from project construction would be minimal and reduced by WQ-1. Therefore, wastewater treatment requirements of the applicable Regional Water Quality Control Board would not be exceeded.
- **b) No Impact:** The project deals entirely with constructing secant walls for slope stability. The secant walls would not have an impact on wastewater treatment facilities, including construction of new water or wastewater treatment facilities.
- **c) No Impact:** The project would not necessitate construction of new or expansion of existing storm water drainage facilities. The existing drainage system within the project limits would be retained to current conditions and the project would not require capacity enhancements to the existing drainage system.
- **d) No Impact:** The project is a slope protection project for PCH and would not require a substantially greater water supply. Water would be needed during construction but is considered insignificant because the water supply available in the area is sufficient.
e) **No Impact:** The proposed project would not require a substantial amount of wastewater to be processed by the area’s wastewater treatment facility. An increase of wastewater treatment capacity will not be necessary; therefore, no impact would occur.

f) **No Impact:** The construction or operation of the project would not require a substantially greater landfill accommodation. An increase of landfill capacity will not be necessary.

g) **No Impact:** The proposed project would not conflict with federal, state, or local statutes and regulations relating to solid waste. All statutes and regulations would be abided by and no impact would occur.

### 3.2.19 Mandatory Findings of Significance

<table>
<thead>
<tr>
<th></th>
<th>Significant and Unavoidable Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Does the project have the potential to 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?</td>
<td>☑️</td>
<td>☒️</td>
<td>☑️</td>
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<tr>
<td>b) Does the project have impacts that are individually limited, but cumulatively considerable? (&quot;Cumulatively considerable&quot; 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)?</td>
<td>☑️</td>
<td>☐️</td>
<td>☒️</td>
<td>☑️</td>
</tr>
<tr>
<td>c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</td>
<td>☑️</td>
<td>☐️</td>
<td>☒️</td>
<td>☑️</td>
</tr>
</tbody>
</table>

a) **Less Than Significant with Mitigation Incorporated:** The project site at PM 4.0 contains habitat for the endangered black abalone and kelp forest which is EFH. These two habitats could be impacted by excavation that causes sedimentation to enter the waterway creating turbidity and physically burying the habitats. These construction impacts could be significant if the sedimentation enters the waterway without any restrictive measures. Caltrans proposes in its project features to deploy a debris blanket with silt fencing along the slope of this location. The BMP would be designed to hang off the slope and catch loosened debris excavated from the top of the slope. Both alternatives propose the deployment of the BMP. The debris blanket BMP would reduce impacts to the black abalone habitat and EFH to less than significant for both alternatives. However, in the unlikely event that the debris blanket BMP completely fail, direct
impacts to the black abalone habitat would be substantial because a considerable amount of sedimentation will enter the waterway and the habitat. Caltrans is proposing mitigation for both build alternatives if post construction surveys reveal that construction activities have impacted the black abalone habitat. Mitigation would be applied as described in Section 2.18 Threatened and Endangered Species to reduce impacts to less than significant with mitigation.

b) **Less Than Significant Impact:** A cumulative impact could occur if the proposed project would result in an incrementally considerable contribution to a significant cumulative impact in consideration of past, present, and reasonable foreseeable future projects. As discussed in the above sections, the project would not result in any unavoidable significant impacts, nor would it result in a cumulatively considerable impact on any resource area. The area is located in a rural, fairly secluded area that, as mentioned in Section 2.20 Cumulative Impacts, the projects proposed in the area are general maintenance projects that would not create a significant cumulative impact when considered this proposed project. In addition, the past projects include temporary actions to prevent slope erosion from wave impacts. This project would serve as a permanent solution to stabilize the slope and roadway. As such, the proposed project would not create cumulative significant impacts.

c) **Less Than Significant Impact:** The proposed project would not result in significant project-level impacts that could directly affect human health, including hazardous materials, air quality, water quality, or additional risk of geological hazards. Therefore, the proposed project would result in a less than significant impact.
3.3 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth’s climate system. An ever-increasing body of scientific research attributes these climatological changes to GHG emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), HFC-23 (fluoroform), HFC-134a (1,1,1,2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) are the largest contributors of GHG emissions. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion.

Two terms are typically used when discussing how we address the impacts of climate change: “greenhouse gas mitigation” and “adaptation.” Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or “mitigate” the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).

3.3.1 Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce GHG emissions from transportation sources.

Federal

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices. This approach encourages

34 https://www.arb.ca.gov/cc/inventory/data/data.htm
35 https://www.fhwa.dot.gov/environment/sustainability/resilience/
planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability.”

Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life. Addressing these factors up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

The Energy Policy Act of 1992 (EPACT92, 102nd Congress H.R.776.ENR): With this act, Congress set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. EPACT92 consists of 27 titles detailing various measures designed to lessen the nation’s dependence on imported energy, provide incentives for clean and renewable energy, and promote energy conservation in buildings. Title III of EPACT92 addresses alternative fuels. It gave the U.S. Department of Energy administrative power to regulate the minimum number of light-duty alternative fuel vehicles required in certain federal fleets beginning in fiscal year 1993. The primary goal of the Program is to cut petroleum use in the United States by 2.5 billion gallons per year by 2020.

Energy Policy Act of 2005 (109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) Indian energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Standards: This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the Corporate Average Fuel Economy (CAFE) program on the basis of each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States.

U.S. EPA’s authority to regulate GHG emissions stems from the U.S. Supreme Court decision in Massachusetts v. EPA (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court’s ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court’s interpretation of the existing Act and EPA’s assessment of the scientific evidence that form the basis for EPA’s regulatory actions.

U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010 and significantly increased the fuel economy of all new passenger cars and light trucks sold in the United States. The standards required these vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. In August 2012, the federal government adopted the second rule that increases fuel economy 36, 37

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36 https://www.sustainablehighways.dot.gov/overview.aspx
37 https://one.nhtsa.gov/Laws--&-Regulations/CAFE-%E2%80%93-Fuel-Economy
for the fleet of passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 and beyond to average fuel economy of 54.5 miles per gallon by 2025. Because NHTSA cannot set standards beyond model year 2021 due to statutory obligations and the rules’ long timeframe, a mid-term evaluation is included in the rule. The Mid-Term Evaluation is the overarching process by which NHTSA, EPA, and ARB will decide on CAFE and GHG emissions standard stringency for model years 2022–2025. NHTSA has not formally adopted standards for model years 2022 through 2025. However, the EPA finalized its mid-term review in January 2017, affirming that the target fleet average of at least 54.5 miles per gallon by 2025 was appropriate. In March 2017, President Trump ordered EPA to reopen the review and reconsider the mileage target.  

NHTSA and EPA issued a Final Rule for “Phase 2” for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO₂ emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

**State**

With the passage of legislation including State Senate and Assembly bills and executive orders, California has been innovative and proactive in addressing GHG emissions and climate change.

Assembly Bill 1493, Pavley Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order S-3-05 (June 1, 2005): The goal of this executive order (EO) is to reduce California’s GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill 32 in 2006 and SB 32 in 2016.

Assembly Bill 32 (AB 32), Chapter 488, 2006: Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code Section 38551(b)). The law requires ARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

Executive Order S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by the year 2020. ARB re-adopted the LCFS regulation in September 2015, and the

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changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor’s 2030 and 2050 GHG reduction goals.

Senate Bill 97 (SB 97), Chapter 185, 2007, Greenhouse Gas Emissions: This bill requires the Governor’s Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

Senate Bill 391 (SB 391), Chapter 585, 2009, California Transportation Plan: This bill requires the State’s long-range transportation plan to meet California’s climate change goals under AB 32.

Executive Order B-16-12 (March 2012) orders State entities under the direction of the Governor, including ARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

Executive Order B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO2e). Finally, it requires the Natural Resources Agency to update the state’s climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.

Senate Bill 32, (SB 32) Chapter 249, 2016, codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

3.3.2 Environmental Setting
In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multi-year program to reduce GHG emissions in California. AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020. The Scoping Plan was first approved by ARB in 2008 and must be updated every 5 years. The second updated plan, California’s 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32.

The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the updated Scoping Plan, ARB
ARB is responsible for maintaining and updating California's GHG Inventory per H&SC Section 39607.4. The associated forecast/projection is an estimate of the emissions anticipated to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented.

An emissions projection estimates future emissions based on current emissions, expected regulatory implementation, and other technological, social, economic, and behavioral patterns. The projected 2020 emissions provided in Figure 3-1 represent a business-as-usual (BAU) scenario assuming none of the Scoping Plan measures are implemented. The 2020 BAU emissions estimate assists ARB in demonstrating progress toward meeting the 2020 goal of 431 MMTCO2e. The 2018 edition of the GHG emissions inventory found total California emissions of 429 MMTCO2e for 2016.

The 2020 BAU emissions projection was revisited in support of the First Update to the Scoping Plan (2014). This projection accounts for updates to the economic forecasts of fuel and energy demand as well as other factors. It also accounts for the effects of the 2008 economic recession and the projected recovery. The total emissions expected in the 2020 BAU scenario include reductions anticipated from Pavley I and the Renewable Electricity Standard (30 MMTCO2e total). With these reductions in the baseline, estimated 2020 statewide BAU emissions are 509 MMTCO2e.

![California Greenhouse Gas 2009 - 2011 Average Emissions, 2020 Emissions Projection for BAU Scenario, and 2020 Goal](https://www.arb.ca.gov/cc/inventory/data/bau.htm)

3.3.3 Project Analysis
An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental change in emissions when combined with the

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39 2018 Edition of the GHG Emission Inventory released (July 2018)
https://www.arb.ca.gov/cc/inventory/data/data.htm
40 The revised target using Global Warming Potentials (GWP) from the IPCC Fourth Assessment Report (AR4)
contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (CEQA Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

GHG emissions for transportation projects can be divided into those produced during operations and those produced during construction. The following represents a best faith effort to describe the potential GHG emissions related to the proposed project.

3.3.4 Operational Emissions
The purpose of the proposed project is to permanently restore slopes damaged by past storms, and to prevent future storm-related erosion that could undermine slopes and result in roadway failure. The project would not alter the highway or increase vehicle miles traveled. After project construction, the constructed secant walls have a low-to-no potential to increase GHG emissions. Only during construction will GHGs be emitted by construction equipment and activities, as described in the next section.

3.3.5 Construction Emissions
Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

The Sacramento Metropolitan Air Quality Management District Road Construction Emissions Model version 8.1.0 was utilized to quantify this proposed project’s construction GHG emissions, as a requirement set forth in EO B-30-15. Table 3.1 below shows the construction GHG emissions for both build alternatives.

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41 This approach is supported by the AEP: Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).
Table 3.1 Construction Emissions for Both Build Alternatives: Alternative 1 and Alternative 2

<table>
<thead>
<tr>
<th>Emission Estimates</th>
<th>CO₂</th>
<th>CH₄</th>
<th>N₂O</th>
<th>CO₂e</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternative 1 – Cantilever Option</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily Maximum (lbs/day)</td>
<td>21,723.51</td>
<td>4.65</td>
<td>0.36</td>
<td>21,945.73</td>
</tr>
<tr>
<td>Total (tons/project)</td>
<td>1,946.23</td>
<td>0.39</td>
<td>0.03</td>
<td>1,965.57</td>
</tr>
<tr>
<td><strong>Alternative 2 – Ground Anchor Option</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily Maximum (lbs/day)</td>
<td>80,752.41</td>
<td>4.77</td>
<td>2.30</td>
<td>81,556.24</td>
</tr>
<tr>
<td>Total (tons/project)</td>
<td>5,091.76</td>
<td>0.40</td>
<td>0.14</td>
<td>5,142.10</td>
</tr>
</tbody>
</table>

CO₂e = carbon dioxide equivalent. Note that CO₂e is comprised of carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) GHG emissions.

The values shown in the table indicate that Alternative 2 – Ground Anchor Option will release more GHG emissions than Alternative 1 – Cantilever Option. Construction equipment usually runs on diesel fuel, which would be the main contributor to GHG emissions that would be released during the 12 months required to construct the project. The data presented in Table 1 was modeled by input of the estimated volume of exported soil and asphalt from grubbing, excavation, grading, paving, and utilities relocation for each of the build alternatives. Alternative 2 would require more material to be hauled from the construction site than Alternative 1 because more excavation and grubbing is required to install the ground anchor. Soil excavation for the piles is required for both build alternatives. Alternative 2 however, would also require the face of the slope to be excavated for installation of the ground anchor. Alternative 1 would not require any slope excavation, only excavation for the piles. Additional excavation would require more construction trucks to haul off the excavated dirt, increasing the amount of construction vehicles miles traveled (VMT). Thus the additional construction equipment needed for Alternative 2, likely running on diesel fuel, would release more GHG emissions than Alternative 1.

Caltrans Standard Specifications apply to all construction contracts. Section 7-1.02C requires contractor to certify they are aware of and will comply with emissions reduction regulations mandated by ARB. Section 14-9.02, Air Pollution Control, requires contractors to comply with all rules, regulations, ordinances, and statutes related to air quality. Efforts to reduce GHG emissions, such as reduced idling of vehicles and other Caltrans construction best management practices, will be implemented in the project. A traffic management plan will be implemented during construction to maintain travel in both directions and minimize traffic delays and idling that can produce GHG.

3.4 CEQA Conclusion

While the project will result in GHG emissions during construction it is anticipated that the project will not result in any increase in operational GHG emissions. While it is Caltrans’ determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project’s direct impact and its contribution on the cumulative scale to climate change, Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.
3.4.1 **Greenhouse Gas Reduction Strategies**

*Statewide Efforts*

In an effort to further the vision of California’s GHG reduction targets outlined in AB 32 and SB 32, Governor Brown identified key climate change strategy pillars (concepts). These pillars highlight the idea that several major areas of the California economy will need to reduce emissions to meet the 2030 GHG emissions target. These pillars are (1) reducing today’s petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farm and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California*.

![CALIFORNIA CLIMATE STRATEGY](image)

*Figure 3-2: The Governor’s Climate change pillars: 2030 Greenhouse gas reduction goals*

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that we build on our past successes in reducing criteria and toxic air pollutants from transportation and goods movement activities. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled. One of Governor Brown's key pillars sets the ambitious goal of reducing today's petroleum use in cars and trucks by up to 50 percent by 2030.

Governor Brown called for support to manage natural and working lands, including forests, rangelands, farms, wetlands, and soils, so they can store carbon. These lands have the ability to remove carbon dioxide from the atmosphere through biological processes, and to then sequester carbon in above- and below-ground matter.

*Caltrans Activities*

Caltrans continues to be involved on the Governor’s Climate Action Team as the ARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in
April 2015, and SB 32 (2016), set a new interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

**California Transportation Plan (CTP 2040)**
The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. The CTP defines performance-based goals, policies, and strategies to achieve our collective vision for California’s future statewide, integrated, multimodal transportation system. It serves as an umbrella document for all of the other statewide transportation planning documents.

SB 391 (Liu 2009) requires the CTP to meet California’s climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state’s transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce GHG emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

**Caltrans Strategic Management Plan**
The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce GHG emissions, among other goals. Specific performance targets in the plan that will help to reduce GHG emissions include:
- Increasing percentage of non-auto mode share
- Reducing VMT per capita
- Reducing Caltrans’ internal operational (buildings, facilities, and fuel) GHG emissions

**Funding and Technical Assistance Programs**
In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several funding and technical assistance programs that have GHG reduction benefits. These include the Bicycle Transportation Program, Safe Routes to School, Transportation Enhancement Funds, and Transit Planning Grants. A more extensive description of these programs can be found in *Caltrans Activities to Address Climate Change* (2013).

Caltrans Director’s Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a department policy that will ensure coordinated efforts to incorporate climate change into departmental decisions and activities.

*Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce GHG emissions resulting from agency operations.

**Project-Level GHG Reduction Strategies**
SCAG has identified mitigation measures that are within the jurisdiction and authority of the ARB, air quality management districts, and other regulatory agencies that project proponents should consider to reduce impacts to air quality as shown in the 2016-2040 RTP/SCS Program Environmental Impact Report. Caltrans has identified the following feasible project-level measures to reduce construction emissions that will be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

- Ensure that all construction equipment is properly tuned and maintained
- Minimize idling time to 5 minutes—saves fuel and reduces emissions
• The highway would remain open with one travel lane in each direction. A traffic management plan will be used to minimize traffic flow interference from construction activities
• The proposed project would not impede future development of the California Coastal Trail in the project area, and would support future alternative modes of travel by protecting the roadway from slope erosion and failure

Adaptation Strategies
“Adaptation strategies” refer to how Caltrans and others can plan for the effects of climate change on the state’s transportation infrastructure and strengthen or protect the facilities from damage—or, put another way, planning and design for resilience. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. These types of impacts to the transportation infrastructure may also have economic and strategic ramifications.

Federal Efforts
At the federal level, the Climate Change Adaptation Task Force, co-chaired by the CEQ, the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency task force progress report on October 28, 2011, outlining the federal government’s progress in expanding and strengthening the nation’s capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provided an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as fresh water, and providing accessible climate information and tools to help decision-makers manage climate risks.

The federal Department of Transportation issued U.S. DOT Policy Statement on Climate Adaptation in June 2011, committing to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely and that transportation infrastructure, services and operations remain effective in current and future climate conditions.”

To further the DOT Policy Statement, on December 15, 2014, FHWA issued order 5520 (Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events). This directive established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. The FHWA will work to integrate consideration of these risks into its planning, operations, policies, and programs in order to promote preparedness and resilience; safeguard federal investments; and ensure the safety, reliability, and sustainability of the nation’s transportation systems.

42 https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/resilience
44 https://www.fhwa.dot.gov/legsregs/directives/orders/5520.cfm
FHWA has developed guidance and tools for transportation planning that fosters resilience to climate effects and sustainability at the federal, state, and local levels.45

**State Efforts**

On November 14, 2008, then-Governor Arnold Schwarzenegger signed EO S-13-08, which directed a number of state agencies to address California’s vulnerability to sea-level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea-level rise and directed all state agencies planning to construct projects in areas vulnerable to future sea-level rise to consider a range of sea-level rise scenarios for the years 2050 and 2100, assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea-level rise. Sea-level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, and storm surge and storm wave data.

Governor Schwarzenegger also requested the National Academy of Sciences to prepare an assessment report to recommend how California should plan for future sea-level rise. The final report, *Sea-Level Rise for the Coasts of California, Oregon, and Washington* (Sea-Level Rise Assessment Report)46 was released in June 2012 and included relative sea-level rise projections for the three states, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates; and the range of uncertainty in selected sea-level rise projections. It provided a synthesis of existing information on projected sea-level rise impacts to state infrastructure (such as roads, public facilities, and beaches), natural areas, and coastal and marine ecosystems; and a discussion of future research needs regarding sea-level rise.

In response to EO S-13-08, the California Natural Resources Agency (Resources Agency), in coordination with local, regional, state, federal, and public and private entities, developed *The California Climate Adaptation Strategy* (Dec 2009),47 which summarized the best available science on climate change impacts to California, assessed California’s vulnerability to the identified impacts, and outlined solutions that can be implemented within and across state agencies to promote resiliency. The adaptation strategy was updated and rebranded in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan).

Governor Jerry Brown enhanced the overall adaptation planning effort by signing EO B-30-15 in April 2015, requiring state agencies to factor climate change into all planning and investment decisions. In March 2016, sector-specific Implementation Action Plans that demonstrate how state agencies are implementing EO B-30-15 were added to the Safeguarding California Plan. This effort represents a multi-agency, cross-sector approach to addressing adaptation to climate change-related events statewide.

EO S-13-08 also gave rise to the *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance), produced by the Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT), of which Caltrans is a member. First published in 2010, the document provided “guidance for incorporating sea-level rise (SLR) projections into planning and decision making for projects in

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45 https://www.fhwa.dot.gov/environment/sustainability/resilience/
47 http://wwwclimatechange.ca.gov/adaptation/strategy/index.html
Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation, and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is actively engaged in working towards identifying these risks throughout the state and will work to incorporate this information into all planning and investment decisions as directed in EO B-30-15.

3.4.2 Project Specific Wave Run-Up Study for Sea Level Rise
This project is located within the coastal zone and will require approval of a consolidated CDP from the Commission and Ventura County Planning Division. As requested by these agencies and in order to comply with the requirements of the permit, Caltrans is preparing a wave run-up study for this project. The wave run-up study includes an analysis of wave dynamics under sea level rise and with the inclusion of the proposed secant walls. The wave run-up study is discussed further in the Coastal section of this document in Chapter 2.

Geographic Mapping for Sea Level Rise
The Cal-Adapt website provides visualization tools that allow users to identify potential climate change risks in specific geographic areas throughout the state. The Cal-Adapt website models inundation location and depth data resulting from different increments of sea level rise coupled with extreme 100-year storm events. The user can focus on a specific geographic area, choose a desired sea level rise measurement, and run the model to demonstrate to what depth the area expected to be inundated.

In addition to this tool, the CO-CAT adopted statewide sea level rise scenarios and a sea level rise interim guidance document in March 2011 and updated in March 2013, which Caltrans was involved in developing. This document created a common set of values that allow all state agencies to plan for sea level rise with the same assumptions. The set of values are sea level rise projections for designated years. The set of values put forth in the document, roughly coincide with the possible sea level rise scenarios in Cal-Adapt. This allows a state agency to input the measurements of sea level rise set forth by the CO-CAT, into the Cal-Adapt website and receive a visualization of how the area is expected to be inundated under these conditions. The Cal-Adapt website uses the metric system for mapping data. In order for the following sea level rise discussion to be consistent with the mapped figures, the metric system will also be used.

The sea level rise projections for 2050 and 2100 were analyzed for the proposed project area. The CO-CAT adopted sea level rise scenarios through 2100, using the year 2000 as baseline. By 2030, sea level is projected to rise by 0.04 meter (m)–0.30 m. By 2050 sea level rise is projected to increase to 0.12 m–0.61 m. The projected sea level rise for year 2100 is an estimated increase of 0.42 m–1.67 m (Table 3.2). For the purposes of this document, 2050 and 2100 sea level rise projection values were input to the Cal-Adapt website. The lowest available sea level rise scenario in the Cal-Adapt tool is 0.5 m, which is a

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projected value for the year 2050. The next two sea level rise scenarios available in the Cal-Adapt tool are within the projected ranged for 2100 and involve sea level rises of 1.0 m and 1.41 m. Figure 3-3, Figure 3-4, and Figure 3-5 depict the three sea level rise scenarios for the project area, as shown in the Cal-Adapt website, overlapped with the proposed placement of the secant walls.

Table 3.2 Sea-Level Rise Projections adopted by the CO-CAT (2013)

<table>
<thead>
<tr>
<th>Year</th>
<th>Range of Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 – 2030</td>
<td>2 in – 12 in (0.04 m – 0.30 m)</td>
</tr>
<tr>
<td>2000 – 2050</td>
<td>5 in – 24 in (0.12 m – 0.61 m)</td>
</tr>
<tr>
<td>2000 – 2100</td>
<td>17 in – 66 in (0.42 m – 1.67 m)</td>
</tr>
</tbody>
</table>
Figure 3-3: Sea level rise of 0.5 meter within the project area from Cal-Adapt website.
Figure 3-4: Sea level rise of 1.0 meter within the project area from Cal-Adapt website.
Figure 3-5: Sea level rise of 1.41 meters within the project area from Cal-Adapt website.
Data from Cal-Adapt is shown as colored tiles representing inundation depth mosaics acquired from the original source layer and are assembled as maximum of source layers. The inundation depth layer for each tile is at 50 m by 50 m spatial resolution. As shown, the grids are coarse and do not exhibit data for every segment of the coastline. Nevertheless, valuable information can be derived from these maps to inform Caltrans on how sea level rise could potentially impact the project.

The inundation depth mosaics discussed below are those that cover the stretch of the secant walls and intersect or are inland from the white line representing the coastline. The white line in each map is roughly where the Pacific Ocean meets the coast today, without a 100-year storm. The white line represents the present-day encroachment of the water level on the coast. Any mosaic tile found inland from the coastal white line in Figures 3-3 – 3.5, would be caused by a 100-year storm and sea level rise.

Table 3.3, below, summarizes the average and maximum inundation depth mosaics that were found within the areas by the proposed secant walls. The proposed secant wall at PM 4.2 is generally less vulnerable to sea level rise than the proposed secant wall at PM 4.0. The minimum value in the average range for the inundation water depth at PM 4.2 is always smaller than the minimum value in the average range for inundation water depth at PM 4.0. The minimum value for the PM 4.2 range is 0 m, 0 m, and 0.51 m; while the minimum value for the PM 4.0 range is 2.01 m, 2.51 m, and 3.01 m for sea level rise scenarios of 0.5 m, 1.0 m, and 1.41 m respectively. This indicates that the area of PM 4.0 is more susceptible to sea level rise than the area of PM 4.2 because even with just the addition of 0.5 m of sea level rise, the effect is shown with greater inundation depth than at PM 4.2.

As sea level rise increases in each scenario, the water depth at both secant wall locations increases as well. However, the effects of sea level rise are more drastic at PM 4.0 due to the greater inundation depths at this secant wall location than at the PM 4.2 secant wall location. The inundation depth ranges were greater at PM 4.0 for each sea level rise scenario (2.01 to 3.50, 2.51 to 4.00, and 3.01 to 4.00) than at the PM 4.2 location (0.00 to 2.50, 0.00 to 3.00, and 0.51 to 3.51) respectively. Although the sea level rise impacts are more severe at PM 4.0, PM 4.2 is still affected by sea level rise as demonstrated by the projected sea level rise scenarios.

Upon observation of the area at each of the secant wall locations, one or two mosaic tiles were found to represent a water depth much greater than the average range of mosaic tiles. These outliers were usually located further off-shore from the proposed wall, but within the coastal area of the white line. These values are tabulated in Table 3.3 as the maximum water depth for each of the sea level rise scenarios and represent the maximum flooding that may occur within certain spots of the project area.

<table>
<thead>
<tr>
<th>Sea Level Rise (meters)</th>
<th>Water Depth at PM 4.0</th>
<th>Water Depth at PM 4.2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Range (meters)</td>
<td>Maximum (meters)</td>
</tr>
<tr>
<td>0.5</td>
<td>2.01 to 3.50</td>
<td>3.51 to 4.00</td>
</tr>
<tr>
<td>1.0</td>
<td>2.51 to 4.00</td>
<td>4.00+</td>
</tr>
<tr>
<td>1.41</td>
<td>3.01 to 4.00</td>
<td>4.00+</td>
</tr>
</tbody>
</table>
The data from Cal-Adapt website illustrated that the area at PM 4.2 will not be as severely affected by sea level rise as the location at PM 4.0. This may be at least partly attributed to the curved roadway and beach that is found at PM 4.2, which provides a buffer between sea level and the proposed secant wall. Also, a large boulder is present at the southern end of the secant wall proposed at PM 4.2, which is expected to serve as a barrier against sea level rise for the roadway. Conversely, the area along PM 4.0 is cliff-like, which makes the roadway and proposed secant wall vulnerable to sea level rise because the roadway does not have a spatial buffer from impacts of the waves. Therefore as sea level rises, the area of PM 4.0 experiences quicker inundation.

Both project locations are susceptible to sea level rise and may experience erosion if sea level rises as expected. The proposed secant walls will serve as a physical barrier between the impacts of the waves and the slope upholding the roadway. The walls are meant to protect the slope from erosion and maintain stability of the roadway during storms. The secant walls would protect the slope supporting the roadway and reflect the wave energy back into the sea.

The waves will continue to erode the shoreline without a barrier such as a secant wall, and eventually the stability of the slope will be compromised. The project area contains a minimal spatial buffer from the Pacific Ocean as shown in the figures, therefore the options to protect the roadway are limited. The secant wall will provide a hard barrier to the base of the slope to prevent erosion. The area at PM 4.0 may continue to have boulders at the base of the wall to absorb wave energy and allow beach build up. At PM 4.2, the natural dirt slope will remain in front of the wall for aesthetic purposes and serve as a soft barrier from wave energy. Because of the project area’s vulnerability to sea level rise, the wave run-up study will analyze wave impacts on the secant walls to better understand and address future impacts of sea level rise on the project. Results from the completed wave run-up study will be included in the final environmental document.
Chapter 4: Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings, public meetings, public notices, and project development team meetings. This chapter summarizes the results of Caltrans’ efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

4.1 Scoping

The process by which a lead agency solicits input from the public and other agencies regarding the breadth and depth of issues related to a proposed project is called scoping. Scoping helps to identify significant issues and determine the range of actions, alternatives, environmental effects, and mitigation measures to be analyzed in depth in the environmental document. Members of the public, relevant federal, state, regional and local agencies, resource agencies, tribal governments, interest groups, community organizations, and other interested parties may participate in the scoping process by providing comments or recommendations regarding issues to be investigated in the environmental document.

Under the CEQA, scoping is designed to examine a proposed project early in the environmental analysis and review process, and is intended to identify the range of issues pertinent to the proposed project and feasible alternatives or mitigation measures to avoid potentially significant environmental effects. NEPA defines scoping as an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. Formal scoping is not required for environmental assessments (EAs). However, CEQ regulations mandate that federal agencies involve environmental agencies, applicants, and the public to the extent practicable in the EA process. As an agency with NEPA assignment, Caltrans performs federal responsibility for environmental decisions and approvals under NEPA for highway projects in California funded by the FHWA and therefore acts as a federal agency in this regard.

The scoping process is not intended to resolve differences of opinion regarding the proposed project or evaluate its merits. Instead, the process allows all interested parties to express their concerns regarding the proposed project, ensuring that all opinions and comments are considered in the environmental analysis. Scoping is an effective way to bring together and address the concerns of agencies, groups, and individuals potentially affected by the project as well as other interested persons, such as the general public, who might not be in accord with actions of the project on environmental grounds.

4.1.1 Notice of Scoping and Initiation of Studies

Notice of Scoping and Initiation of Studies letters were sent to agencies and other interested parties on October 18, 2017 and November 20, 2017. Letters were sent to 14 federal and regional agencies, including the: USACE, United States Department of the Interior, FHWA, Natural Resources Conservation Service of the United States Department of Agriculture, United States Forest Service, USFWS, United States National Park Service, EPA, NOAA Fisheries Service, Office of Environmental Policy and Compliance of the United States Department of Interior, Federal Transit Administration, FEMA, Advisory
Council on Historic Preservation, and the County of Ventura Planning Division. Fourteen state agencies received letters, including the: California Highway Patrol, Commission, Department of Conservation, CDFW, Department of Forestry and Fire Protection, Native American Heritage Commission, Office of Historic Preservation, California Department of Parks and Recreation, Public Utilities Commission, RWQCB, Resources Agency, Santa Monica Mountains Conservancy, State Lands Commission, and Department of Water Resources.

Because no residential communities exist in or near the project area, letters were only sent to federal, state, and regional agencies. No letters were mailed to individual members of the public because the area does not contain any residents.

Responses to the Notice of Scoping and Initiation of Studies letters were received from two agencies, the Commission and CDFW. Their concerns are summarized below.

California Department of Fish and Wildlife
CDFW submitted comments as a Responsible Agency under CEQA and as California’s Trustee Agency for fish and wildlife resources. CDFW made note of several species that could exist in the project area, including California Grunion (Leuresthes tenuis), California Least Tern (Sternula antillarum browni), Western Snowy Plover (Charadrius alexandrinus nivosus), nesting birds, and tidal species, and recommended measures to avoid, minimize, and mitigate impacts to these species. CDFW also recommended wildlife and plant surveys, a hydrology report to study Sycamore Canyon Creek and other ephemeral streambeds located near the project site, and to take careful note of tidal habitats that could be impacted by construction and maintenance of the seawall.

These comments are acknowledged and will be taken into consideration when developing project features and avoidance, minimization, and mitigation measures for the project.

California Coastal Commission
The Commission submitted comments as an agency with jurisdiction over the coastal zone and its resources. The Commission advised that the environmental study should consider potential effects of sea level rise, and that a sea level rise and wave run-up analysis may need to be completed to do so. It also recommended modeling effects of various sea level rise and storm scenarios on each of the project alternatives’ structures.

The Commission also reiterated the initiatives of the 2017 Plan for Improved Agency Partnering between Caltrans and the Commission, including the interagency agreement between the two. Among the 2017 Plan, are goals to: collaborate on the California Coastal Trail that may pass along the Pacific Coast Highway within the project area; provide space for safe pedestrian and bicycle use along the transportation corridor; and enhance connections to existing public access and recreational facilities, including Point Mugu State Park and the public beach and ocean below the highway. It also recommended that the project incorporate context sensitive, see-through bridge and guardrail designs to enhance visual resources in the coastal zone and provide for native species and invasive control in landscaping plans.

Notification of future activity associated with this or related projects was requested. Coordination will be ongoing with the Commission. Discussion regarding the CDP will be discussed further in the Section 4.2 Interagency Consultation and Coordination of this chapter.
4.1.2 California State Parks
An email was sent on October 3, 2017 to State of California Department of Parks and Recreation with an inquiry about archaeological sensitivity within the Sycamore Cove Beach area. A reply was received from Barbara Tejada, Archaeologist for the Angeles and Channel Coast Districts, on October 9, 2017. Ms. Tejada stated that there were no recorded sites in Sycamore Cove Beach, though scattered shell had been observed. She stated that it was redeposited since it was located in a manufactured berm.

4.2 Interagency Consultation and Coordination

4.2.1 Coastal Development Permit
Because the entire project is within the coastal zone, a CDP will be required. A LCP was certified in 1983 for Ventura County, meaning the Ventura County Planning Division may process a CDP for development within its LCP jurisdiction. For new development below the mean high tide line, a CDP is required from the Commission.

Because the project takes place in both the jurisdictions of the Ventura County Planning Division and the Commission, the Commission is authorized to process a consolidated CDP application when the applicant, the local government, and the Commission all agree to do so, as per Coastal Act Section 30601.3. A consolidated CDP application will be prepared to satisfy both the Commission and Ventura County Planning Division.

4.2.2 Waters of the United States
The proposed project requires the discharge of dredge and fill material into waters of the United States. As such, Section 404 coordination and permit will be required from USACE. Furthermore, when a federal license or permit is required for a project that will result in a discharge to waters of the United States, a Section 401 water quality certification will be required from the State or RWQCB. Coordination has begun and will continue with both federal and regional agencies.

4.2.3 National Marine Fisheries Service
Early coordination with NOAA Fisheries Service began on December 19, 2017. Details of coordination are discussed in Chapter 2 of the environmental document and in depth in the Natural Environment Study (NES). Coordination is ongoing and will continue throughout the lifespan of the project.

4.2.4 Native American Coordination
As a part of AB52 of CEQA, consultation with tribal governments that may have interest or knowledge about the project area, is required for a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource.

Native American Heritage Commission
A Sacred Lands File search was requested from the NAHC on September 8, 2017. Frank Lienert, Associate Governmental Program Analyst, of the NAHC responded on September 20, 2017. The search did not identify the presence of Native American cultural sites in the vicinity. However, the NAHC recommended contacting six individuals that may have knowledge of cultural resources in or close to the project’s APE. Attempts to contact and responses of these six individuals are described below:

Native American Tribes, Groups, and Individuals
- Julie Tumamait-Stenslie, Chairperson, Barbareño/Ventureño Band of Mission Indians, Chumash
A letter was mailed out by Caltrans on September 15, 2017 with the project description and invitation to be a consulting party. The letter was received by Ms. Tumamait-Stenslie on September 18, 2017. A follow-up email and voicemail were sent out on October 26, 2017. No response has been received to date.

- Kenneth Kahn, Chairperson, Santa Ynez Band of Chumash Indians
  
  A letter was mailed out by Caltrans on September 25, 2017 with the project description and invitation to be a consulting party. The letter was received by Mr. Kahn on September 27, 2017. A follow-up email and voicemail were sent out on October 26, 2017. No response has been received to date.

- Raudel Joe Banuelos, Jr., Barbareño/Ventureño Band of Mission Indians, Chumash
  
  A letter was mailed out by Caltrans on September 25, 2017 with the project description and invitation to be a consulting party. The letter was returned to Caltrans as undeliverable after several attempts were made by USPS. A follow-up voicemail was left on October 26, 2017. No response has been received to date.

- Patrick Tumamait, Barbareño/Ventureño Band of Mission Indians, Chumash
  
  A letter was mailed out by Caltrans on September 25, 2017 with the project description and invitation to be a consulting party. The letter was received on September 27, 2017. On October 11, 2017, Caltrans returned Mr. Tumamait’s voicemail with a phone call. He did not provide any specific archaeological site information for the area, but he requested to be contacted if cultural material is revealed during construction.

- Eleanor Arrellanes, Barbareño/Ventureño Band of Mission Indians, Chumash
  
  A letter was mailed out by Caltrans on September 25, 2017 with the project description and invitation to be a consulting party. The letter was received on October 5, 2017. Caltrans followed up with a phone call on October 16, 2017. Ms. Arrellanes did not provide any specific archaeological site information for the area at the time, but stated that she would contact Caltrans if anything arises.

- Mia Lopez, Coastal Band of the Chumash Nation
  
  Since no mailing address was provided, an initial voicemail was left with Ms. Lopez on September 25, 2017. The voicemail stated that a project was being undertaken in Ventura County on SR-1 and requested to be called back if Ms. Lopez would like to be a consulting party. A follow-up voicemail was left on October 26, 2017, reiterating the project information and request. No response has been received to date.

Caltrans will continue to consult with the interested Native American representatives as they respond. Any comments or concerns provided by the representatives will be addressed in an addendum to the HPSR. Consultation documentation, including logs, mailed letters, emails, and NAHC results are located in Appendix C of the HPSR.

### 4.3 Project Site Visits

A project site visit was coordinated on March 15, 2018. In attendance were representatives from Caltrans, the Commission, the RWQCB, the Ventura County Planning Division, and private consultants. The CDFW and the USACE were also invited, but declined the invitation or were unable to attend. The
intent of the visit was to initiate an early coordination site visit with these regulatory agencies, receive feedback on the proposed construction of the seawalls, and discuss potential impacts to the shoreline.

4.4 Section 4(f)
Both build alternatives would require TCEs for the 2 proposed locations for the proposed secant walls. The TCE at PM 4.0 is estimated to be 0.206 acres and the TCE at PM 4.2 is about 0.038 acres. Both areas proposed for TCE would be used for construction staging, equipment storage, and access. In addition to these construction uses, the Alternative 2 – Ground Anchor Option would also require the TCE to be used for the removal of 4 feet of dirt from the slope for the entire length of the wall. Slope excavation is required for removal in order to install the ground anchor that is crucial for the construction of Alternative 2 – Ground Anchor Option. The slope would be fully restored after construction to resemble pre-construction conditions, including installation of the appropriate amount of dirt to fill the excavated slope and replanting the slope.

The property needed for TCE is called Point Mugu State Park and the owner of this property is the State of California Department of Parks and Recreation. As a public park facility, Point Mugu State Park is afforded special protections under Section 4(f) of the U.S. Department of Transportation Act of 1966. For the purposes of Section 4(f), this type of temporary occupancies would not constitute a use because the five conditions listed in 23 Code of Federal Regulations (CFR) 774.13(d) are expected to be met prior to circulation of the final environmental document. The only requirement that has not been met is documented agreement of the official with jurisdiction over the Section 4(f) resource meeting the 5 conditions. Consultation was initiated by Caltrans on September 07, 2018 and a response from the State of California Department of Parks and Recreation is forthcoming. The letter sent to the official with jurisdiction with attachments are included in the following pages.
September 7, 2018

Suzanne Goode 
Senior Environmental Planner 
California State Parks 
1925 Las Virgenes Road 
Calabasas, CA 91302

Dear Ms. Goode,

The California Department of Transportation (Caltrans) District 7, proposes to construct 2 secant walls on the southbound/coastal side of State Route (SR) 1, also known as Pacific Coast Highway (PCH), in Ventura County at post mile 4.0 and 4.2 to stabilize the roadway foundation. The secant wall at post mile 4.0 is proposed at 600 feet long and up to 70 feet high. The second secant wall at post mile 4.2 is proposed at 200 feet long and up to 70 feet high. Both secant walls will be constructed to stand completely underground and not visible to the public. The purpose of this project is to perform permanent restoration of damage incurred by severe storm events within the project limits. The slope has sustained severe surf erosion that has undermined the roadway, and high intensity storms have resulted in cracks and displacements of the roadway shoulder. The proposed construction is intended to help stabilize the eroded slope and highway. The project would require temporary construction easements (TCE) in Point Mugu State Park.

Caltrans is the lead agency under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act of 1969 (NEPA). A Draft Initial Study (IS)/Environmental Assessment (EA) is being prepared for this project, which includes a no build alternative and 2 build alternatives (Alternative 1: Cantilever Option and Alternative 2: Ground Anchor Option). Both build alternatives would require TCEs for the 2 proposed locations for the secant walls. The TCE at post mile 4.0 is estimated to be 0.206 acres and the TCE at post mile 4.2 is about 0.038 acres.

Both areas proposed for TCE would be used for construction staging, equipment storage, and construction access. In addition to these construction uses, the Alternative 2: Ground Anchor Option would also require the TCE to be used for the removal of 4 feet of dirt from the slope for the entire length of the wall. Minor slope excavation is required for removal in order to install the ground anchor that is crucial for the construction of Alternative 2: Ground Anchor Option. The slope would be fully restored after construction to resemble pre-construction conditions, including installing the appropriate amount of dirt to fill the excavated slope and replanting the slope with native plants. All activity on park property would be temporary and intermittent.

As a public park facility managed by the State of California Department of Parks and Recreation, Point Mugu State Park is afforded special protections under Section 4(f) of the U.S. Department of Transportation Act of 1966. Section 4(f) defines “use” in three ways: permanent

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability"
Ms. Suzanne Goode  
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incorporation/permanent easement; constructive use; and temporary occupancy. Permanent incorporation/permanent easements involve a right-of-way acquisition of Section 4(f)-protected land as part of the transportation project. The transportation agency or project sponsor directly purchases the property (fee simple acquisition), and the property sustains a permanent impact, as the Section 4(f) protected property is changed to a transportation facility.

Temporary occupancy results when a Section 4(f) property, in whole or in part, is required for project construction-related activities. The property is not permanently incorporated into a transportation facility, but the activity is adverse in terms of the preservation purpose of Section 4(f). However, there are five conditions listed in 23 Code of Federal Regulations (CFR) 774.13(d) that if met, would be “temporary occupancies of land... so minimal as to not constitute a use within the meaning of Section 4(f)” Those conditions are as follows:

- Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
- Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal;
- There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
- The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project; and
- There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

A constructive use of Section 4(f) lands occurs only if there is no permanent incorporation of land or temporary occupancy constituting Section 4(f) use. If the proximity impacts of the proposed project on adjacent or nearby Section 4(f) protected property are substantial - that is, when the protected activities, features, or attributes of the Section 4(f) property are substantially diminished- constructive use occurs.

Under the no build alternative, no construction would take place, and there would be no disturbance to any public park facility. Therefore, there would be no potential effect on Section 4(f) resources or facilities in the project study area.

Caltrans considers the build alternatives to meet the above conditions for exception to temporary occupancy. No permanent acquisition of Section 4(f) protected resources or facilities is required, and the duration of construction in the TCEs is estimated to be 1 year. The project is proposed to be constructed in phases; the TCE for the first wall would be occupied with equipment during construction at that location while the second location would be vacant, then the second TCE would undergo construction while the first location is clear. The public does not have access to the area involving the TCE, so there would be no effect on public access, as the remaining portions of Point Mugu State Park would continue to be available for recreational use and access during construction.
Ms. Suzanne Goode  
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The intent of this communication is to initiate consultation and coordination with your agency to determine temporary occupancy of Point Mugu State Park and to ensure that all reasonable measures to minimize harm have been considered. Caltrans aims to abide by all established policies as required by agencies with jurisdiction over Section 4(f) facilities, and any recommended measures to preserve operation and maintenance of such facilities during construction. Caltrans is seeking your written concurrence that the exception for temporary occupancies in 23 CFR 774.13(d) is applicable to Point Mugu State Park. If comments are not received from your agency by the end of the draft environmental document circulation period, a lack of objection may be assumed and the process may proceed to a final evaluation.

If you have any questions, please contact me at (213) 897-9572 or the project’s lead environmental planner, Vanessa Velasco, at (213) 897-7665.

Sincerely,

Lourdes Ortega

LOURDES ORTEGA  
Senior Environmental Planner  
Division of Environmental Planning  
California Department of Transportation

Enclosure: Project Plans  
TCE Map

“Provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and viability”
Chapter 5: List of Preparers

The following Caltrans staff members and consultants contributed to the preparation of this draft IS/EA.

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Eduardo Aguilar, Senior Environmental Planner, Maintenance Biology.
Dave Bhalla, Senior Transportation Engineer, Floodplains and Hydrology.
Mariam Dahdul, Associate Environmental Planner, Archaeology.
Nayla E-Shammas, Associate Environmental Planner, Maintenance Biology.
Kelly Ewing-Toledo, Senior Environmental Planner, Cultural.
Ravindra B. Ghate, Project Manager.
Seungwoon Han, Transportation Engineer, Geotechnical.
David Jang, Senior Transportation Engineer, Geology.
Jin Lee, Senior Transportation Engineer, Noise and Vibration.
Hannah Minderhout, Environmental Planner.
Samer Momani, Associate Environmental Planner.
Penny Nakashima, Senior Engineering Geologist, Hazardous Waste.
Christian Nordal, Environmental Planner, Maintenance Biology.
George Olguin, Senior Landscape Architect.
Utpala Patel, Transportation Engineer, Hazardous Waste.
Prem Rimal, Senior Bridge Engineer, Geotechnical.
Liberty San Agustin, Transportation Engineer, Air Quality.
Shabnam Sheikh, Environmental Planner.
Samia Soueidan, Transportation Engineer, Noise and Vibration.
Diana Valadez, Environmental Planner, Archaeology.
Nestor Valenton, Transportation Engineer, Hydrology.
Alison Wong, Environmental Planner.
Andrew Yoon, Senior Transportation Engineer, Air Quality.
Robert Wang, Environmental Planner, GIS.

5.2 Consulting Parties
Ayman Salama and Jerald Ramsden, WSP. Contribution: Wave Run-Up Study.
## Chapter 6: Distribution List

### 6.1 Federal Agencies

<table>
<thead>
<tr>
<th>Name</th>
<th>Agency/Division</th>
<th>Address/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stephanie Hall</td>
<td>U.S. Army Corps of Engineers, Los Angeles District</td>
<td>915 Wilshire Blvd, Ste 930, Los Angeles, CA 90017</td>
</tr>
<tr>
<td>Collette Thogerson</td>
<td>U.S. Fish and Wildlife Services</td>
<td>2493 Portola Rd., Ste B, Ventura, CA 93003</td>
</tr>
<tr>
<td>Janet Whitlock</td>
<td>U.S. Department of the Interior</td>
<td>333 Bush St., Ste 515, San Francisco, CA 94104</td>
</tr>
<tr>
<td>Laura Joss</td>
<td>U.S. National Park Service, Pacific West Region</td>
<td>333 Bush St., Ste 515, San Francisco, CA 94104</td>
</tr>
<tr>
<td>Tashia Clemons</td>
<td>Federal Highway Administration, California Division</td>
<td>650 Capital Mall, Ste 4-100, Sacramento, CA 95814</td>
</tr>
<tr>
<td>Morgan Capilla</td>
<td>U.S. Environmental Protection Agency, Region IX</td>
<td>US EPA, 75 Hawthorne St. (ENF-4-2), San Francisco, CA 94105</td>
</tr>
<tr>
<td>Dawn Afman</td>
<td>US Department of Agriculture, Natural Resources...</td>
<td>3550 S. Harbor Blvd., Ste 2-202, Oxnard, CA 93035</td>
</tr>
<tr>
<td>Anthony Spina</td>
<td>National Oceanic and Atmospheric Administration</td>
<td>501 W. Ocean Blvd., Long Beach, CA 90802</td>
</tr>
<tr>
<td>Jason Ko</td>
<td>U.S. Forest Service</td>
<td>1323 Club Dr., Vallejo, CA 94592</td>
</tr>
<tr>
<td>Carol Braegelmann</td>
<td>U.S. Department of Interior, Office of Environmental Policy &amp; Compliance</td>
<td>1849 C St. NW, Washington, D.C. 20240</td>
</tr>
<tr>
<td>Carl Hausner</td>
<td>Eleventh Coast Guard District</td>
<td>Coast Guard Island Building 50-2, Alameda, CA 94501-5100</td>
</tr>
<tr>
<td>Theresa Stevens, Ph.D.</td>
<td>U.S. Army Corps of Engineers, LA District Regulatory Division Ventura Field Office</td>
<td>2151 Alessandro Drive, Suite 110, Ventura, CA 93001</td>
</tr>
<tr>
<td>Alessandro Amaglio</td>
<td>Federal Emergency Management Agency, Region IX</td>
<td>1111 Broadway, Ste 1200, Oakland, CA 94607</td>
</tr>
<tr>
<td>Edward Carranza, Jr.</td>
<td>Federal Transit Administration</td>
<td>201 Mission St., Ste 1650, San Francisco, CA 94105</td>
</tr>
</tbody>
</table>
## 6.2 State Agencies

<table>
<thead>
<tr>
<th>Name</th>
<th>Office/Agency</th>
<th>Address/Location</th>
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</thead>
<tbody>
<tr>
<td>Julianne Polanco</td>
<td>Office of Historic Preservation</td>
<td>1725 23rd Street, Suite 100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sacramento, CA 95816</td>
</tr>
<tr>
<td>Zach Rehm</td>
<td>California Coastal Commission</td>
<td>South Coast Area Office</td>
</tr>
<tr>
<td></td>
<td></td>
<td>200 Oceangate, Suite 1000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long Beach, CA 90802-4302</td>
</tr>
<tr>
<td>Danielle LeFer</td>
<td>California State Parks, Angeles District</td>
<td>1925 La Virgenes Canyon Road</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calabasas, CA 92302</td>
</tr>
<tr>
<td>Suzanne Goode</td>
<td>California State Parks, Angeles District</td>
<td>1925 Las Virgenes Canyon Road</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calabasas, CA 91302</td>
</tr>
<tr>
<td>Betty J. Courtney</td>
<td>Department of Fish and Wildlife</td>
<td>South Coast Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3883 Ruffin Road</td>
</tr>
<tr>
<td></td>
<td></td>
<td>San Diego, CA 92123</td>
</tr>
<tr>
<td>Christina Curry</td>
<td>Cal OES</td>
<td>3650 Schriever Avenue</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mather, CA 95655-4203</td>
</tr>
<tr>
<td>State Water Resources</td>
<td>Los Angeles Region</td>
<td>320 W. 4th Street, Suite 200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Los Angeles, CA 90013</td>
</tr>
<tr>
<td>Michael Sabbaghian</td>
<td>Department of Water Resources</td>
<td>P.O. Box 942836</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sacramento, CA 94236-0001</td>
</tr>
<tr>
<td>Cynthia Marvin</td>
<td>Transportation and Toxics Division</td>
<td>California Air Resources Board</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P.O. Box 2815</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sacramento, CA 95812</td>
</tr>
<tr>
<td>Coastal Division</td>
<td>California Highway Patrol</td>
<td>4115 Broad Street, Suite B-10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>San Luis Obispo, CA 93401</td>
</tr>
<tr>
<td>Chris Beckwith</td>
<td>California State Lands Commission</td>
<td>200 Oceangate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long Beach, CA 90802</td>
</tr>
</tbody>
</table>
### 6.3 Elected Officials

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Henry Stern</td>
<td>California State Senate, District 27 5016 N. Parkway, Ste 222 Calabasas, CA 91302</td>
</tr>
<tr>
<td>Kamala Harris</td>
<td>United States Senate 312 N. Spring St., Ste 1748 Los Angeles, CA 90012</td>
</tr>
<tr>
<td>Julia Brownley</td>
<td>District 26 Representative United States Congress 300 E. Esplanade Dr., Ste 470 Oxnard, CA 90036</td>
</tr>
<tr>
<td>Dianne Feinstein</td>
<td>United States Senate 11111 Santa Monica Blvd., Ste 915 Los Angeles, CA 90025</td>
</tr>
<tr>
<td>Jacqui Irwin</td>
<td>California State Assembly, District 44 230 W. 7th St., Ste B Oxnard, CA 93030</td>
</tr>
<tr>
<td>Linda Parks</td>
<td>District 2 Supervisor Ventura County Board of Supervisors 625 W. Hillcrest Dr. Thousand Oaks, CA 91360</td>
</tr>
</tbody>
</table>

### 6.4 Regional Agencies

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kimberly Prillhart</td>
<td>County of Ventura, Planning Division 800 S. Victoria Ave. Ventura, CA 93009</td>
</tr>
<tr>
<td>Aaron Engstrom</td>
<td>County of Ventura Long-Range Planning Division 800 S. Victoria Ave. Ventura, CA 93009</td>
</tr>
<tr>
<td>Kathy Yhip</td>
<td>Southern California Edison Environmental Policy and Affairs 2244 Walnut Grove Ave. Rosemead, CA 91770</td>
</tr>
<tr>
<td>Naval Base Ventura County</td>
<td>311 Main Road, Bldg. 1 Point Mugu, CA 93042</td>
</tr>
<tr>
<td>Dr. Philip Fine</td>
<td>South Coast AQMD 21865 Copley Dr. Diamond Bar, CA 91765-4182</td>
</tr>
<tr>
<td>Jessica Nguyen</td>
<td>Mountains Recreation and Conservation Authority 5810 Ramirez Canyon Road Malibu, CA 90265</td>
</tr>
<tr>
<td>Linda Parks</td>
<td>District 2 Supervisor Ventura County Board of Supervisors 625 W. Hillcrest Dr. Thousand Oaks, CA 91360</td>
</tr>
</tbody>
</table>
Appendix A: Title VI Policy Statement
March 2013

NON-DISCRIMINATION
POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bcp/title_vi/6_violated.htm.

Additionally, if you need this information in a alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.

MALCOLM DOUGHERTY
Director

"Carpenter improves milting across California"
Appendix B: Environmental Commitment Record

In order to be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, avoidance, minimization, and/or mitigation measures will be incorporated into the project’s final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. As the following ECR is a draft, some fields have not been completed, and will be filled out as each of the measures is implemented. Note: Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR.
<table>
<thead>
<tr>
<th>Description of Commitment</th>
<th>Commitment Source</th>
<th>Timing</th>
<th>Responsible Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parks and Recreation</strong></td>
<td></td>
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</tr>
<tr>
<td>PAR-1</td>
<td>Environmental Document</td>
<td>Construction</td>
<td>Resident Engineer</td>
</tr>
<tr>
<td>As required by 1 of the 5 conditions listed in 23 CFR 774.13(d) for temporary occupancy exception, after construction the TCE will be full restored to its original state or better than when the area was acquired for TCE. This shall include installing the appropriate amount of dirt to fill the excavated slope and replanting the slope with native plants. Coordination with the State of California Department of Parks and Recreation will be conducted prior to final design plans in order to ensure the TCE area is fully restored.</td>
<td></td>
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</tr>
</tbody>
</table>

| **Utilities**            |                   |        |                   |
| UT-1                     | Environmental Document | Final Design Phase | Project Engineer |
| Caltrans will coordinate with all affected private and public service utilities during the design phase to identify any potential conflicts with existing utilities. This process will include seeking approval from utility providers on where to relocate utilities following construction if restoring location in-place is not possible. |

| UT-2                     | Environmental Document | Pre-Construction | Resident Engineer, Project Engineer |
| Emergency services will be informed of any proposed detour routes to avoid any impacts to their response times. Furthermore, the Traffic Management plan described in the following section (Section 2.5 Traffic and Transportation/Pedestrian and Bicycle Facilities), will provide a circulation traffic plan for access through the project site during construction to avoid impacts. |

<p>| <strong>Traffic and Transportation/Pedestrian and Bicycle Facilities</strong> |                   |        |                   |
| TRA-1                   | Environmental Document | Construction | Resident Engineer |
| Traffic operations and access through the project area will remain unrestricted during construction and impacts to motorists would remain minimal to the fullest extent possible through the Traffic Management Plan. |</p>
<table>
<thead>
<tr>
<th>Description of Commitment</th>
<th>Commitment Source</th>
<th>Timing</th>
<th>Responsible Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cultural Resources</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>CUL-1</strong> If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.</td>
<td>Standard Specifications</td>
<td>Construction</td>
<td>Resident Engineer, Cultural Staff</td>
</tr>
<tr>
<td><strong>CUL-2</strong> If human remains are discovered, California Health and Safety Code (H&amp;SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Caltrans District 7 Environmental Branch so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.</td>
<td>Standard Specifications</td>
<td>Construction</td>
<td>Resident Engineer, Cultural Staff</td>
</tr>
<tr>
<td><strong>Water Quality and Stormwater Runoff</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WQ-1</strong> To reduce potential contaminated or sediment-containing runoff from polluting the nearby environment, design BMPs and temporary construction BMPs will be implemented. The types and locations of the design BMPs will be determined in the design plans in the final design phase. The types and locations of the temporary construction BMPs will be described in the Stormwater Pollution Control Plan prior to the start of construction activities.</td>
<td>Environmental Document</td>
<td>Construction</td>
<td>Resident Engineer</td>
</tr>
<tr>
<td><strong>Hazardous Waste/Materials</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description of Commitment</td>
<td>Commitment Source</td>
<td>Timing</td>
<td>Responsible Staff</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------</td>
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<td>-------------------------------------------------</td>
</tr>
<tr>
<td><strong>HAZ-1</strong> A task-specific LCP to prevent or minimize worker exposure to lead while handing soil containing lead will be required. The LCP should be prepared, reviewed, approved, stamped, and signed by a Certified Industrial Hygienist (CIH).</td>
<td>Environmental Document</td>
<td>Pre-Construction</td>
<td>Resident Engineer, Hazardous Waste Staff</td>
</tr>
<tr>
<td><strong>HAZ-2</strong> Removal and disposal of metal beam guardrail wood posts shall be managed under CCR Title 22, Division 4.5, Chapter 34, which specifies guidelines for storage, accumulation, shipment/transport, and disposal at approved treated wood facilities. Project funding would be allocated for the management (including handling, storing, transportation, and disposal) of TWW and the Board of Equalization fee.</td>
<td>Environmental Document</td>
<td>Construction</td>
<td>Resident Engineer, Hazardous Waste Staff</td>
</tr>
<tr>
<td><strong>HAZ-3</strong> A project-specific Lead Compliance Plan and Debris Containment and Disposal Work Plan will be prepared to address the removal, containment, storage, sampling, and disposal of yellow/white thermoplastic and lead-based painted traffic stripe and/or pavement markings, and to prevent or minimize worker exposure to lead while handling the debris/residue (California Code of Regulations [CCR], Title 8, Section 1532.1, “Lead,” and California Occupational Safety and Health Administration [Cal/OSHA] Construction Safety Order).</td>
<td>Environmental Document</td>
<td>Pre-Construction</td>
<td>Resident Engineer, Hazardous Waste Staff</td>
</tr>
<tr>
<td><strong>HAZ-4</strong> Prior to starting construction, the contractor shall inspect the existing electrical components to determine if any hazardous materials are present. All electrical equipment requiring disposal shall be handled and transported to an appropriate permitted electrical disposal facility as required by local and state regulatory procedures.</td>
<td>Environmental Document</td>
<td>Pre-Construction</td>
<td>Resident Engineer, Hazardous Waste Staff</td>
</tr>
<tr>
<td><strong>HAZ-5</strong> If dewatering of groundwater is required, a site investigation of groundwater will be conducted to determine water quality for discharge/disposal options. As a result of the findings from the site investigation, any proposed construction provisions necessary for dewatering will be included in the final design package prior to project bid.</td>
<td>Environmental Document</td>
<td>Construction</td>
<td>Resident Engineer, Hazardous Waste Staff</td>
</tr>
<tr>
<td>Description of Commitment</td>
<td>Commitment Source</td>
<td>Timing</td>
<td>Responsible Staff</td>
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<tr>
<td>---------------------------</td>
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<tr>
<td><strong>Air Quality</strong></td>
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</tr>
<tr>
<td>AQ-1</td>
<td>Environmental Document</td>
<td>Construction</td>
<td>Resident Engineer</td>
</tr>
<tr>
<td>If naturally occurring asbestos, serpentine, or ultramafic rock is discovered during grading operations Section 93105, Title 17 of the California Code of Regulations requires notification to the Ventura County Air Pollution Control District by the next business day and implementation of dust control measures described in Section 93105 (d)(B).</td>
<td></td>
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<tr>
<td>AQ-2</td>
<td>Standard Specifications</td>
<td>Construction</td>
<td>Resident Engineer</td>
</tr>
<tr>
<td>In order to minimize dust, the use of watering should be sufficient to confine dust plumes to the project work areas, in addition to covering trucks when hauling dirt. The surface of dirt piles will be stabilized if they are not removed immediately.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>AQ-3</td>
<td>Standard Specifications</td>
<td>Final Design Phase</td>
<td>Resident Engineer</td>
</tr>
<tr>
<td>On Caltrans projects, appropriate Caltrans Standard Specifications 10-Dust Control, 14-Air Quality, and 18-Dust Palliative shall be incorporated into project specifications. The resident engineer shall ensure that all construction equipment is properly tuned and maintained.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AQ-4</td>
<td>Environmental Document</td>
<td>Construction</td>
<td>Resident Engineer</td>
</tr>
<tr>
<td>Construction equipment idling time will be minimized to 5 minutes, in an effort to save fuel and reduce emissions.</td>
<td></td>
<td></td>
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<tr>
<td><strong>Biological Environment</strong></td>
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<tr>
<td>BIO-1</td>
<td>Environmental Document</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
</tr>
<tr>
<td>A debris blanket with slit fencing will be deployed along the side of the cliff of both secant wall locations to hold sedimentation on the cliff and prevent loading onto the ocean or beach below.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO-2</td>
<td>Environmental Document</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
</tr>
<tr>
<td>No construction work shall commence on full moon or high tide nights to avoid impacting California grunion.</td>
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<td></td>
</tr>
<tr>
<td>BIO-3</td>
<td>Environmental Document</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
</tr>
<tr>
<td>Full-time biological monitoring will occur during project construction.</td>
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<tr>
<td>BIO-4</td>
<td>Environmental Document</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
</tr>
<tr>
<td>No construction work or equipment shall directly impact the rock or cliff face on the northbound upslope side of PCH.</td>
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<tr>
<td>Description of Commitment</td>
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<td>Timing</td>
<td>Responsible Staff</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>BIO-5 No construction work or equipment shall directly impact the rock</td>
<td>Environmental</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
</tr>
<tr>
<td>formation adjacent to PM 4.2 on the southbound shoulder of PCH.</td>
<td>Document</td>
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<tr>
<td>BIO-6 Biological monitoring for all night work during construction will be required</td>
<td>Environmental</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
</tr>
<tr>
<td>from sunset to dawn to ensure no direct impacts or encroachment upon the</td>
<td>Document</td>
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<tr>
<td>aforementioned bat habitat.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>BIO-7 Prior to project construction, a Caltrans biologist shall conduct bat</td>
<td>Environmental</td>
<td>Pre-Construction</td>
<td>Resident Engineer, Biologist</td>
</tr>
<tr>
<td>surveys within and immediately adjacent to the project impact areas to identify</td>
<td>Document</td>
<td></td>
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</tr>
<tr>
<td>the presence of bats and/or bat pups. If bat pups are confirmed, work shall delay</td>
<td></td>
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</tr>
<tr>
<td>until the bat pups are able to fly or forage.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO-8 Should night work be needed, work shall commence 1 hour after sunset after all</td>
<td>Environmental</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
</tr>
<tr>
<td>the bats have vacated the project impact areas to forage and cease 2 hours before dawn</td>
<td>Document</td>
<td></td>
<td></td>
</tr>
<tr>
<td>when bats return to roost.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>BIO-9 Equipment noise control should be applied to revising old equipment and</td>
<td>Environmental</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
</tr>
<tr>
<td>designing new equipment to meet specified noise levels.</td>
<td>Document</td>
<td></td>
<td></td>
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<tr>
<td>BIO-10 In-Use Noise Control should be applied where existing equipment is not permitted</td>
<td>Environmental</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
</tr>
<tr>
<td>to produce noise levels in excess for specified limits.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>BIO-11 Site restrictions should be applied as an attempt to achieve noise reduction</td>
<td>Environmental</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
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<td>through modifying the time, place, or method of operation of a particular source.</td>
<td>Document</td>
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<tr>
<td>BIO-12 Personal training of operators and supervisors is needed to become more aware</td>
<td>Environmental</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
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<td>of the construction site noise problems.</td>
<td>Document</td>
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<td>BIO-13 Preconstruction bird surveys for the California least tern and Western snowy</td>
<td>Environmental</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
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<td>plovers will be performed by a qualified biologist on Sycamore Cove Beach to determine</td>
<td>Document</td>
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<td>whether the species are present.</td>
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<tr>
<td>BIO-14 Qualified Caltrans biologists shall conduct a post construction survey of the</td>
<td>Environmental</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
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<td>rocky intertidal zone, which encompasses the black abalone habitat, to assess and</td>
<td>Document</td>
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<td>quantify any direct sedimentation and rock fall impacts caused by construction</td>
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<td>activities to the black abalone habitat.</td>
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<tr>
<td>Description of Commitment</td>
<td>Commitment Source</td>
<td>Timing</td>
<td>Responsible Staff</td>
</tr>
<tr>
<td>---------------------------</td>
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<tr>
<td><strong>BIO-15</strong> Caltrans, in coordination with NOAA Fisheries Service, will mitigate the impacts by restoring the rocky intertidal zone with a 1:1 acreage ratio by performing the following: removing encrusting organisms to create space for crustose coralline algae and other intertidal species to inhabit and reintroducing black abalone to maintain habitat and support a diverse biological community. If Caltrans is unable to perform these activities, providing funds for restoration or enhancement to a conservancy recommended by NOAA Fisheries Service will also be used as a mitigation option.</td>
<td>Environmental Document</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
</tr>
<tr>
<td><strong>BIO-16</strong> All equipment and materials will be inspected for the presence of invasive species prior to use. In compliance with the EO 13112 and guidance from FHWA, replanting for landscaping and erosion control will not be done with any species listed as invasive. Furthermore, the area will be replanted with natives when appropriate, in order to promote healthy coastal sage scrub habitat.</td>
<td>Standard Specifications</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
</tr>
<tr>
<td><strong>BIO-17</strong> All construction equipment shall be thoroughly washed at the construction yard before being transported to the project site to avoid spreading invasive to the project site.</td>
<td>Environmental Document</td>
<td>Construction</td>
<td>Resident Engineer, Biologist</td>
</tr>
</tbody>
</table>
# Appendix C: List of Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ADL</td>
<td>aerially deposited lead</td>
</tr>
<tr>
<td>APE</td>
<td>Area of Potential Effects</td>
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<tr>
<td>AQMD</td>
<td>Air Quality Management District</td>
</tr>
<tr>
<td>ARB</td>
<td>California Air Resources Board</td>
</tr>
<tr>
<td>ASR</td>
<td>Archaeological Survey Report</td>
</tr>
<tr>
<td>bgs</td>
<td>Below ground surface</td>
</tr>
<tr>
<td>BMPs</td>
<td>Best Management Practices</td>
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<tr>
<td>BSA</td>
<td>Biological Study Area</td>
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<tr>
<td>Caltrans</td>
<td>California Department of Transportation</td>
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<tr>
<td>CDFW</td>
<td>California Department of Fish and Wildlife</td>
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<tr>
<td>CEQ</td>
<td>Council on Environmental Quality</td>
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<tr>
<td>CEQA</td>
<td>California Environmental Quality Act</td>
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<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation and Liability Act of 1980</td>
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<td>CESA</td>
<td>California Endangered Species Act</td>
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<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
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<td>CH4</td>
<td>methane</td>
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<td>CNNDDB</td>
<td>California Natural Diversity Database</td>
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<tr>
<td>CNPS</td>
<td>California Native Plant Society</td>
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<tr>
<td>CO</td>
<td>carbon monoxide</td>
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<tr>
<td>CO2</td>
<td>carbon dioxide</td>
</tr>
<tr>
<td>CO-CAT</td>
<td>Coastal Ocean Climate Action Team</td>
</tr>
<tr>
<td>County</td>
<td>Ventura County</td>
</tr>
<tr>
<td>CTC</td>
<td>California Transportation Commission</td>
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<tr>
<td>CTP</td>
<td>California Transportation Plan</td>
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<tr>
<td>CWA</td>
<td>Clean Water Act</td>
</tr>
<tr>
<td>dBA</td>
<td>A-weighted decibels</td>
</tr>
<tr>
<td>DP</td>
<td>(Caltrans) Director's Policy</td>
</tr>
<tr>
<td>EO</td>
<td>Executive Order</td>
</tr>
<tr>
<td>EPA</td>
<td>United States Environmental Protection Agency</td>
</tr>
<tr>
<td>FCAA</td>
<td>Federal Clean Air Act</td>
</tr>
<tr>
<td>FESA</td>
<td>Federal Endangered Species Act</td>
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<tr>
<td>FHWA</td>
<td>Federal Highway Administration</td>
</tr>
<tr>
<td>FOE</td>
<td>Finding of Effect</td>
</tr>
<tr>
<td>FONSI</td>
<td>Finding of No Significant Effect</td>
</tr>
<tr>
<td>FSTIP</td>
<td>Federal Statewide Transportation Improvement Program</td>
</tr>
<tr>
<td>FTA</td>
<td>Federal Transit Administration</td>
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<tr>
<td>FTIP</td>
<td>Federal Transportation Improvement Program</td>
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<tr>
<td>GHG</td>
<td>greenhouse gas</td>
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<tr>
<td>GIS</td>
<td>Geographic Information System</td>
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<tr>
<td>Guidelines</td>
<td>Section 404(b)(1) Guidelines</td>
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<td>H2S</td>
<td>hydrogen sulfide</td>
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<tr>
<td>HCP</td>
<td>Habitat Conservation Plan</td>
</tr>
<tr>
<td>HPSR</td>
<td>Historic Preservation Survey Report</td>
</tr>
</tbody>
</table>
SHS  State Highway System
SIP  State Implementation Plan
SO$_2$  sulfur dioxide
sq ft  square feet
sq mi  square miles
SSPs  Standard Special Provisions
STIP  State Transportation Improvement Program
SWMP  Storm Water Management Plan
SWPPP  Storm Water Pollution Prevention Plan
SWRCB  State Water Resources Control Board
TSCA  Toxic Substances Control Act
TWW  treated wood waste
USACE  United States Army Corps of Engineers
USC  United States Code
USDOT  United States Department of Transportation
USFWS  United States Fish and Wildlife Service
VEN 01  State Route 1 in Ventura County
WDR  Waste Discharge Requirement
WPCP  Water Pollution Control Plan
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List of Technical Studies (bound separately)

Air Quality Review Memorandum
Archaeological Survey Report
Bioacoustics Study Report
Hazardous Waste Assessment for IS/EA Preparation
Hazardous Waste Assessment for PAED
Historic Property Survey Report
Location Hydraulic Study
Natural Environment Study
Natural Environment Study (Amended)
Preliminary Foundation Report
Visual Impact Assessment
Wave Run-Up Study