
**DRAFT INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION FOR THE
CLIFF DRIVE RESILIENCY PROJECT**



Prepared for:
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July 2026

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
ADWF	average dry weather flow
APE	Area of Potential Effect
BMPs	Best Management Practices
CAA	Clean Air Act
CAP/RCPS	Clean Air Plan/Regional Climate Protection Strategy
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO ₂ E	carbon dioxide equivalent
CY	cubic yards
DBA	decibel, “A” weighted
DPM	diesel particulate matter
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
OHP	State Office of Historic Preservation
O ₃	ozone
PM ₁₀	particulate matter less than 10 microns
PM _{2.5}	particulate matter less than 2.5 microns
PPM	parts per million
RWQCB	Regional Water Quality Control Board
SCH	State Clearinghouse
SO _x	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TMDL	Total Maximum Daily Load
USFWS	US Fish and Wildlife Service
VOC	volatile organic compound
WPCP	Water Pollution Control Plant

ENVIRONMENTAL DETERMINATION

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

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

DETERMINATION: On the basis of this initial evaluation:

I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	
I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	X
I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	
I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	
I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.	

Jessica Kahn

Jessica Kahn, Public Works Director, City of Capitola

July 21, 2026

Date

I. INTRODUCTION

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the City of Capitola Department of Public Works (City), 420 Capitola Avenue, Capitola, CA, pursuant to the California Environmental Quality Act (CEQA) statutes¹ and Guidelines². It provides documentation to support the conclusion that the proposed Cliff Drive Resiliency Project (“the project”), with mitigation identified herein, would not cause a potentially significant impact to the physical environment.

This IS/MND describes the location of the project site, the project sponsor’s objectives, and the details of the proposed project. The Environmental Checklist Form included as Appendix G of the CEQA Guidelines serves as the basis for the environmental evaluation contained in the IS/MND. The Checklist Form examines the specific potential project-level physical environmental impacts that may result from the construction and operation of the proposed project. Mitigation measures have been identified to reduce any potentially significant impacts that would otherwise occur to a less-than-significant level.

The City of Capitola will serve as the “lead agency” (the public agency that has the principal responsibility for carrying out and/or approving a project) for the proposed project. The California Coastal Commission will be a Responsible Agency for this project, as the work is proposed within their California Coastal Act jurisdiction. Other responsible Agencies may include California Department of Fish and Wildlife, and the California Regional Water Quality Control Board. The City of Capitola is responsible for ensuring that the environmental review and documentation meet the requirements of CEQA. The Draft IS/MND will be circulated for a 30-day public review period.

Should the City approve the project, it would be required to file a “Notice of Determination” for posting by the County Clerk and filing at the State Clearinghouse. The filing of the notice and its posting starts a 30-day statute of limitations on court challenges to the CEQA review of the project.

Document Organization

This document is organized into the following sections:

SECTION I – INTRODUCTION: Provides background information about the project.

SECTION II – PROJECT DESCRIPTION: Includes project background and detailed description of the project.

SECTION III – INITIAL STUDY CHECKLIST AND DISCUSSION: Reviews the proposed project and states whether the project would have potentially significant environmental effects.

¹ Public Resources Code Sections 21000 et seq.

² Title 14, Section 15000 et seq. of the California Code of Regulations

SECTION IV – MANDATORY FINDINGS OF SIGNIFICANCE: States whether environmental effects associated with development of the proposed project are significant, and what, if any, added environmental documentation may be required.

SECTION V – REFERENCES: Identifies source materials that have been consulted in the preparation of the IS.

SECTION VI – REPORT PREPARERS: Identifies the firms and individuals who prepared the IS.

APPENDICES - Includes technical reports, comments and responses on the Draft IS/MND, and Mitigation Monitoring and Reporting Program.

II. PROJECT DESCRIPTION

Project Name:	Cliff Drive Resiliency Project
Project Location:	Cliff Drive between Portola Drive and Wharf Road, Capitola
Project Applicant and Lead Agency	City of Capitola (applicant and Lead Agency)
General Plan Designation:	Public/Quasi Public (P/QP)
Zoning:	Community Facility (CF)
Project Approvals:	City of Capitola approval of project and Local Coastal Plan Amendment; California Coastal Commission, Local Coastal Plan Amendment approval and issuance of Coastal Development Plan. City and County Building Permits.
Date Initial Study Completed:	July 16, 2026

PROJECT DESCRIPTION

Introduction

The City of Capitola Public Works Department (City), is proposing a project to address coastal bluff erosion and associated undermining of the roadway along approximately 800 feet of Cliff Drive in Capitola.

The proposed restoration project is intended to remediate current bluff erosion and provide resiliency for projected increased erosion associated with climate change/sea-level rise. Bluff erosion has threatened this route since the 1960s and is expected to worsen due to rising sea levels and more intense storms from climate change. The City of Capitola seeks a strategy to manage access along the portion Cliff Drive adjacent to the coastal bluff.

In its current configuration Cliff Drive is a busy corridor serving walkers, bicyclists, motorists, and those parking to enjoy the stunning vistas of the Pacific Ocean. Due to the lack of sidewalks along Cliff Drive, conflicts between pedestrians and motorists are possible.

To protect Cliff Drive from coastal erosion, rock slope protection (RSP) consisting of large boulders was installed at the base of the bluff in the early 1960s, prior to the enactment of the California Coastal Act (CCA) in 1976. A review of California Coastal Commission (CCC) records indicates that the RSP has remained in a substantially similar configuration and remains a critical factor in reducing bluff erosion.

In the 1990's rapid erosion of the bluff again threatened Cliff Drive. In 1997, the City, with support from the Federal Highway Administration (FHWA), installed a soil nail wall with a shotcrete facing to protect the soft upper layers of soil. This wall has successfully performed for almost 30 years. However, the denser material of the bluff located below the wall has since weathered and retreated inland, undermining the shotcrete.

Heavy storms and waves during the winter of 2022/2023 caused a significant amount of bluff erosion further undermining the wall. To address the issue, the City of Capitola applied for and received funding from the California Coastal Commission (CCC) through the Local Coastal Program Local Assistance Grant Program as well as the FHWA's Emergency Relief Program. According to the grant from the CCC to the City, the following is a key objective:

Cliff Drive is a heavily used, arterial and primary evacuation route for the low-lying Capitola Village mixed-use district. Cliff Drive is also a primary coastal access point with low-cost coastal public access parking and stairway to the beach. The City's Local Coastal Program (LCP) currently identifies Cliff Drive as a priority for coastal access improvements (Policy II-4) as the pedestrian and bicycle facilities currently consist of an unimproved road shoulder. Improvements for coastal access cannot be made at this time as episodic bluff erosion threatens the roadway. The purpose of this project is to identify a preferred alternative to improve the road structure and configuration, which will then be incorporated as an amendment to the LCP.

As a separate project adjacent to Cliff Drive within the study area, Santa Cruz County completed an Environmental Impact Report to install a multi-use trail within their right of way parallel to and maintaining the existing rail alignment. Known as Segment 11, the proposed trail parallels the tracks and ends to the west of the Soquel Creek overcrossing. At this location, it connects to Cliff Drive but does not offer Class 1 accommodation supporting pedestrians and bicyclists on their route to Capitola Village.

A Feasibility Report for the project was prepared in 2024³. The report identified a number of alternative approaches to achieving the project's goals (as summarized in Project Objectives, below). The Proposed Project that is described and evaluated in this IS/MND is a phased version of Alternative 3, Protect, as described in the Feasibility Report. The phasing would involve implementation of Alternative 4, Phased Protection, as described in that report, as the first phase followed by the extension of protection as included in Alternative 3. The Proposed Project is described in detail in this Chapter.

Project Objectives

The proposed project includes the following objectives to provide resilience to sea-level rise and increased storm/wave intensity associated with climate change:

- Protecting the bluff to preserve and improve Cliff Drive as a transportation asset
- Protect utilities including sanitary sewer (gravity and force main) and potable water systems under the roadway.
- Facilitate bicycle and pedestrian access by improving the bike trail and sidewalks along the roadway.

Project Location

The project is located in the City of Capitola, in Santa Cruz County (see **Figure 1**). The segment of Cliff Drive under review lies within the City of Capitola's right-of-way, extending from east of 4850 Cliff Drive to west of 4920 Cliff Drive (see **Figure 2**). This nearly 800-foot stretch, classified as a minor arterial roadway, accommodates nearly 8,000 vehicles daily alongside hundreds of bicyclists and pedestrians. It also serves as the primary evacuation route for Capitola Village.

The proposed project generally falls within the public right-of-way managed by the City of Capitola. Cliff Drive resides with the City's right of way which is about 60 feet wide. Portions of the bluff are located within the City's right of way as well as parcels owned by the County of Santa Cruz and City of Capitola. A portion of the project area overlaps with the railroad tracks operated by the Santa Cruz County Regional Transportation Commission (SCCRTC).

³ Cliff Drive Resiliency Feasibility Study, Capitola California, Draft, CSWST2 October 2024.

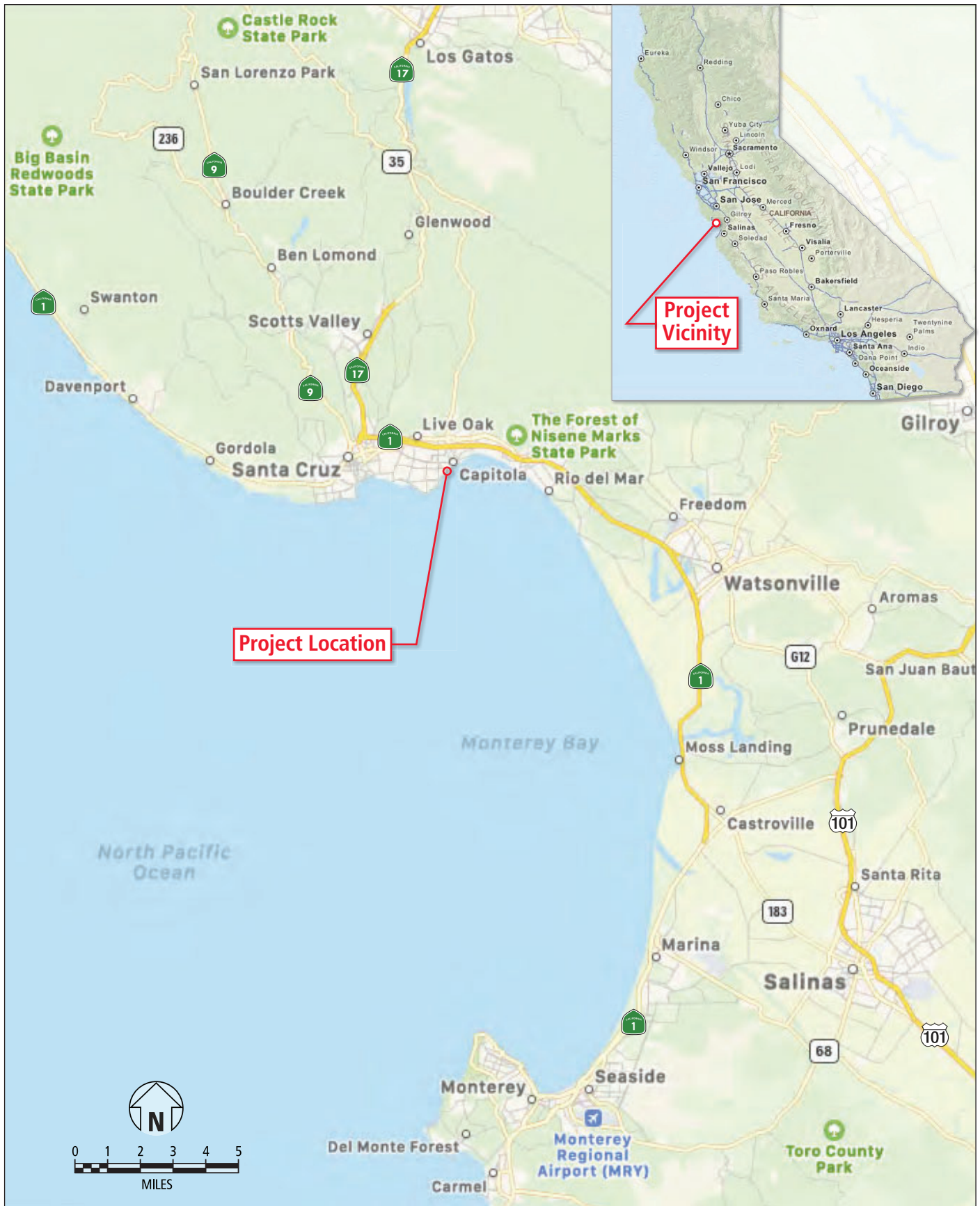


Figure 1
Project Location

Source: TomTom Maps and Grasseti Environmental

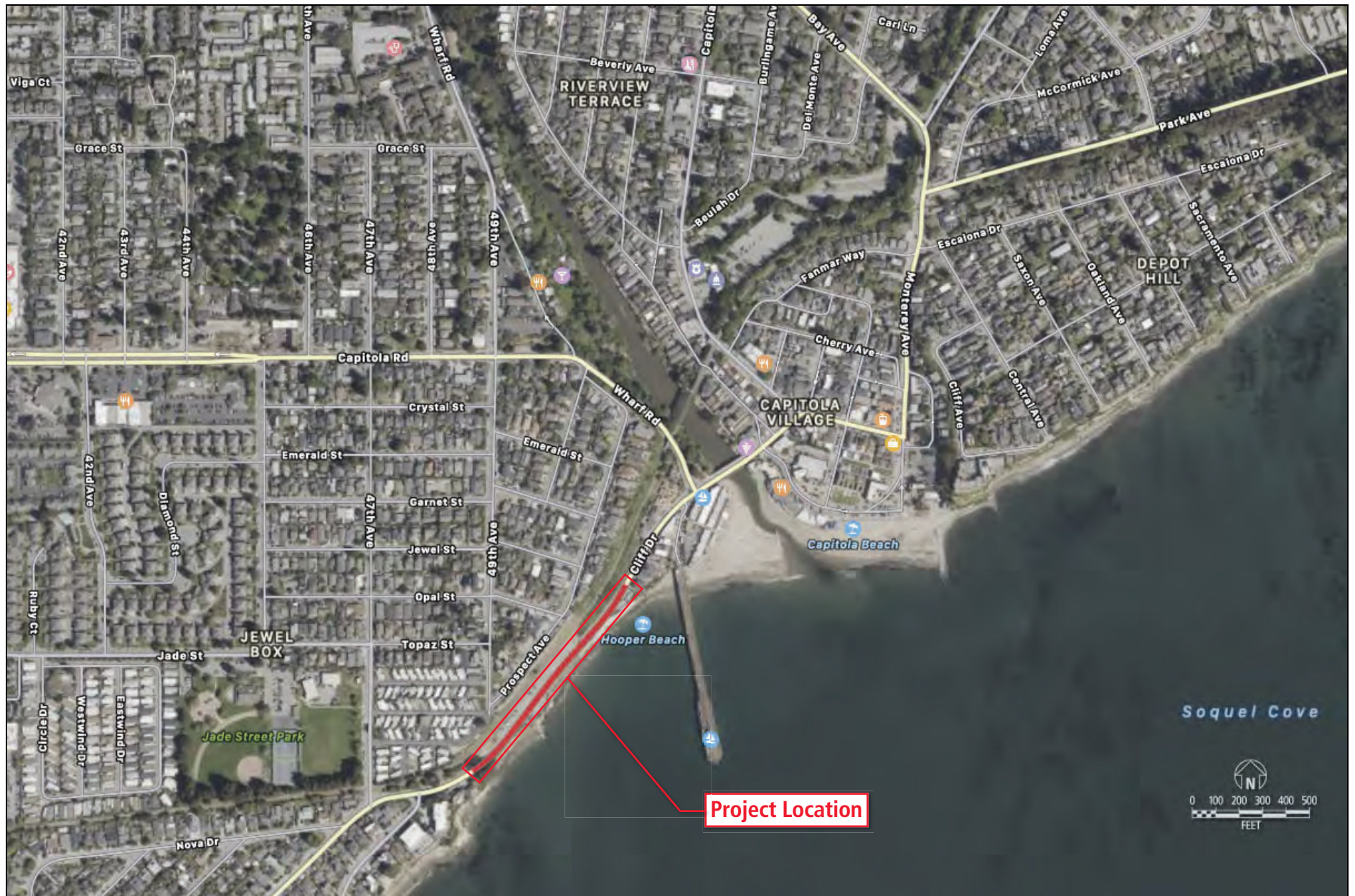


Figure 2
Project Vicinity

Source: TomTom Maps and Grasetti Environmental

The current Cliff Drive consists of two travel lanes for vehicles, parking on the north side of the roadway, and has Class II bicycle lanes in each direction (see **Figure 3**). The overall roadway is 35 feet in width. Perpendicular and angle parking exist on both sides of the roadway within the study area; at these locations the overall roadway width is about 80 feet.

The SCCRTC has proposed a multi-use trail, referred to as Segment 11, within their right-of-way parallel to the rail alignment. This trail ends west of the Soquel Creek overcrossing and connects to Cliff Drive. However, the current design does not include Class 1 accommodations to fully support pedestrians and bicyclists traveling toward Capitola Village.

Cliff Drive's elevation ranges from 47 to 68 feet above sea level, based on the North American Vertical Datum of 1988 (NAVD88), while the bluff's nearly vertical slope descends to a rock slope protection (RSP) elevation of 10 to 12 feet above NAVD88. The mean sea level in this area is approximately 3 feet above NAVD88.

Surrounding Land Uses

The project alignment is bounded by the Pacific Ocean (Monterey Bay) to the southwest, residential neighborhoods of Capitola to the northeast, and a commercial area to the northwest. Cliff Drive bridges over the mouth of Soquel Creek just west of the project alignment, providing access to the Capitola Village commercial area.

Proposed Resiliency Project

The proposed resiliency project includes both bluff erosion resiliency improvements and a reconstructed Cliff Drive roadway with parking and a new Class 1 pedestrian/bicycle path. These improvements are described in detail below.

Basis of Design

The proposed resiliency project has been designed to address existing erosion as well as future erosion from climate change and sea-level rise.

Cliff Drive, located at the north end of Monterey Bay, experiences the following wave systems:

- **North Pacific swell:** Generated year-round by extratropical storms, mid-latitude low-pressure systems, and cold fronts.
- **Southern swell:** Occurs in summer, originating from storms in the Southern Hemisphere.
- **Northwest wind waves:** Created by local weather systems, dominant from April to October.
- **Local wind waves:** Generated by winter storm systems, primarily from October to April.

Cliff Drive is sheltered from northerly to northwesterly offshore waves but increasingly exposed to westerly and southerly waves. The most significant wave runup occurs with west-southwesterly

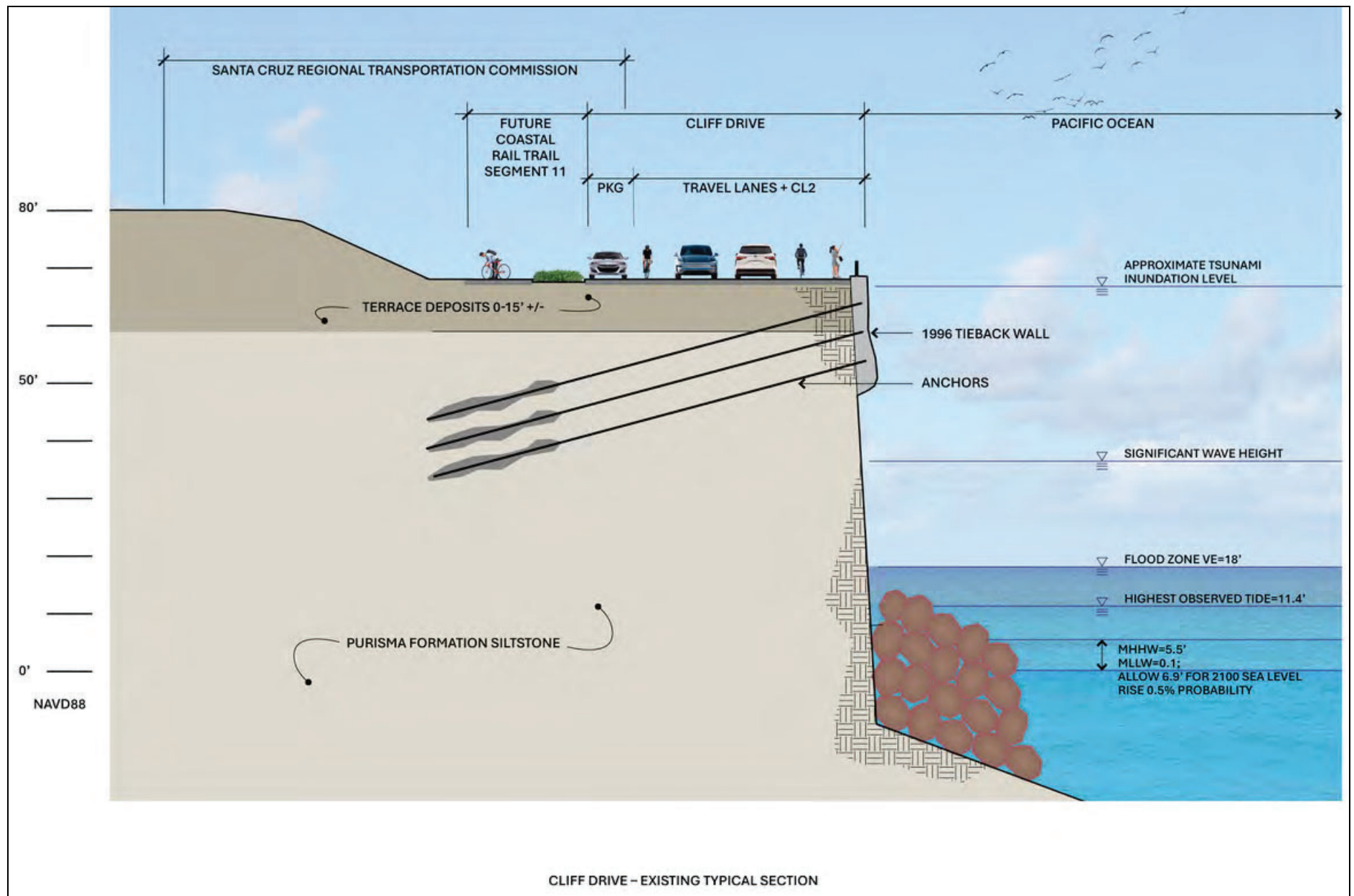


Figure 3 Existing Roadway Cross-Section

waves, which can overtop the rock revetment, leading to spalling and sea cave formation along the cliff face. The highest wave runup elevations are associated with waves from the west-southwest direction. In a 100-year storm event, the wave runup from this direction will be to about an elevation of +16 feet NAVD88. As the clifftop elevation along Cliff Drive ranges between 47 and 68 feet NAVD88, there is no risk of waves overtopping the roadway. Note that there is a 5% risk of a tsunami wave overtopping Cliff Drive.

Erosion and Bluff Retreat

Long-term erosion rates as reported by USGS (2017), range from 0.3 to 1.3 feet per year. Erosion is influenced by high tides, wave action, El Niño events, precipitation, and seismic activity, making bluff failures episodic and unpredictable. Short-term localized retreat can exceed the average long-term rates.

Measurements along the soil nail wall installed in 1997 indicate the bluff is retreating approximately 6 inches annually due to wave action. Sea caves continue to form at the base of the bluff and above the RSP, exacerbating bluff undermining and erosion. This ongoing process poses a significant threat to the stability of Cliff Drive.

Sea Level Rise Projections

The change in water level between a 1-year storm event and a 100-year storm event is about 1 foot. During strong El Niño episodes, the water level can rise by as much as 1.2 feet, and in very strong El Niño episodes about 1.5 feet. This illustrates that a rise in the sea level has a pronounced impact on wave runup. Consequently, the strong and very strong El Niño episodes experienced over the last several decades can be taken as a preview of sea level rise. With sea level rise, episodes of wave overtopping over the crest of the rock revetment will become more frequent and more impactful.

The sea level trend based on tides recorded at Monterey from 1973 to 2024 indicate a rise of about 0.07 inches per year or 0.58 feet over a century. Climate scientists expect this trend to accelerate as a result of climate change. The Ocean Protection Council (OPC) has released updated sea level rise guidance for California. The OPC document entitled, “DRAFT: State of California Sea Level Rise Guidance: 2024 Science and Policy Update” evaluates potential sea level rise for future years and three potential emissions scenarios. An excerpt of the OPC data is shown in Table 1, below.

Table 1: OPC Sea Level Rise Guidance (OPC 2024)			
Year	Intermediate (feet)	Intermediate-High (feet)	High (feet)
2050	0.8	1.0	1.2
2080	1.8	3.0	4.1
2100	3.1	4.9	6.6
2130	5.0	7.1	10.0

In 2080, sea level rise is projected to be between 1.8 and 4.1 feet, which corresponds to an absolute mean sea level elevation of 4.77 to 7.07 feet in accordance with NAVD88. For 2130, sea level rise is projected to be between 5 and 10 feet, which, when added to the 100-year water level of 8.2 feet as shown in the Tidal Data above corresponds to an absolute mean sea level elevation of between 13.2 and 18.2 feet NAVD88. Note that the OPC guidelines show the amount of sea level rise only and do not account for tides or other meteorologic phenomena. Table 2 summarizes the absolute elevations of future sea level rise scenarios.

Table 2: Future Sea Level Conditions at Cliff Drive (OPC 2024)			
Year	OPC Intermediate (Feet) NAVD88	OPC Intermediate High (Feet) NAVD88	OPC High (Feet) NAVD88
2080	10.0	11.2	12.3
2130	13.2	15.3	18.2

The highest wave runup elevation is estimated to be elevation +21.6 feet NAVD88, which occurred during the January 5, 2023, bomb cyclone. Other instances of high wave runup past elevation +18.0 feet NAVD88 occurred during the 1982-83 and 1997-98 very strong El Niño episodes.

The project has been designed to accommodate the projected 2130 conditions including both sea level rise and wave runup.

Proposed Project

As discussed in the Introduction section above, the Proposed Project is a phased version of Alternative 3 in the Feasibility Report. It would include bluff stabilization via a soil-nail-anchored shotcrete wall, rock slope protection at the base of the bluff, and a resurfaced roadway with two travel lanes, parking and a bike lane.

Bluff Stabilization

The full project's bluff stabilization would install a full-face, sculpted shotcrete wall with tiebacks along the bluff. It would provide a Class 1 trail linking the Coastal Rail Path Segment to the easterly project limit (see **Figures 4a and 4b**). Future maintenance costs are low as the wall would have a design life in excess of 80 years.

The first phase of the project would install shotcrete (sprayed concrete) facing to the most vulnerable areas of the bluff east of the overlook parking area (see **Figures 5 and 6**). This facing would be anchored into the existing bluff by embedding soil nails to a depth of about 45 feet from the face at a downward inclination of 20 degrees. These soil nails would be placed at 5 to 10 feet on center and grouted in place to ensure a bond between the steel and the bluff soil. Wire reinforcement would be placed along the bluff's face and bonded to the soil nails.

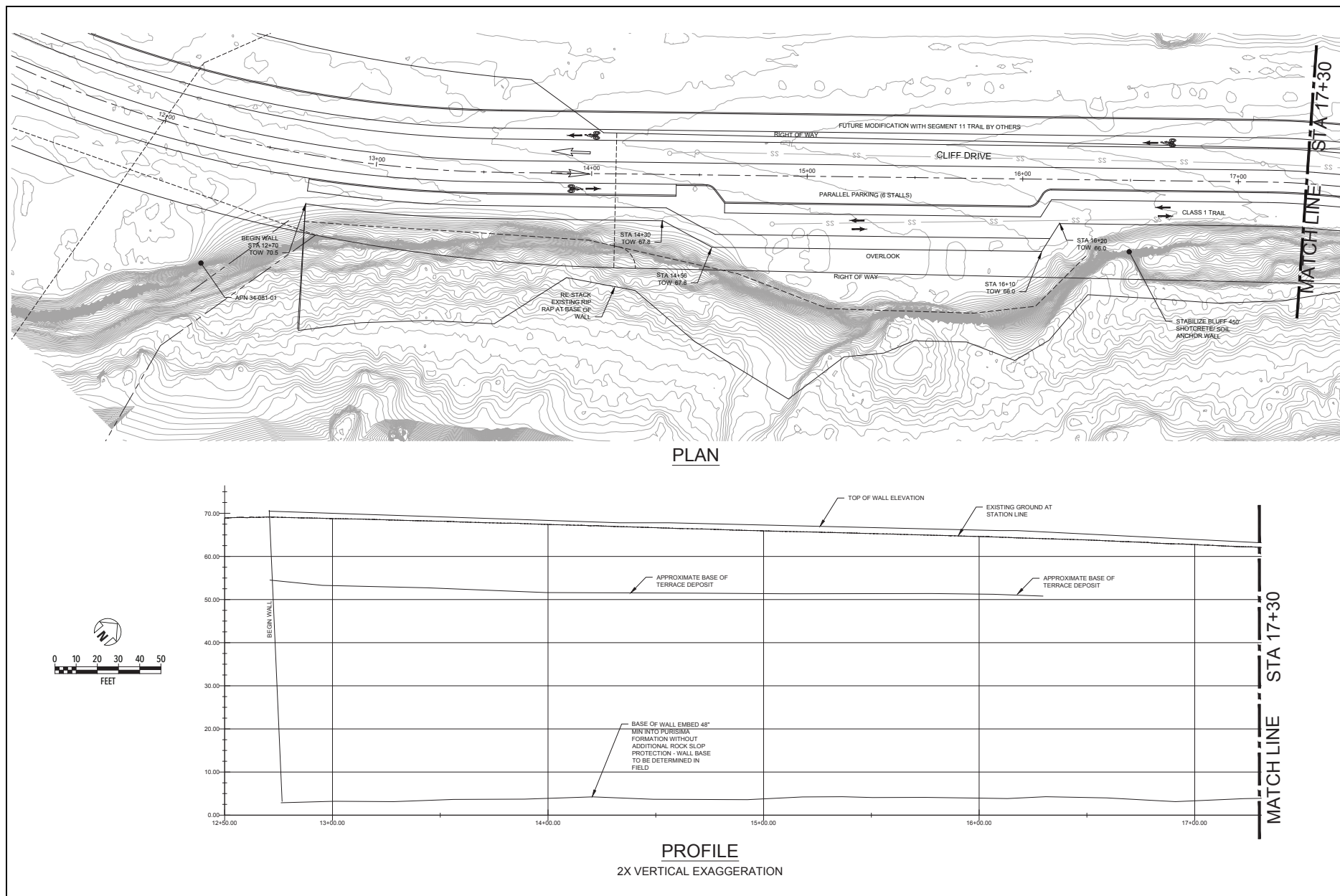


Figure 4a
Proposed Project Alignment (West Section)

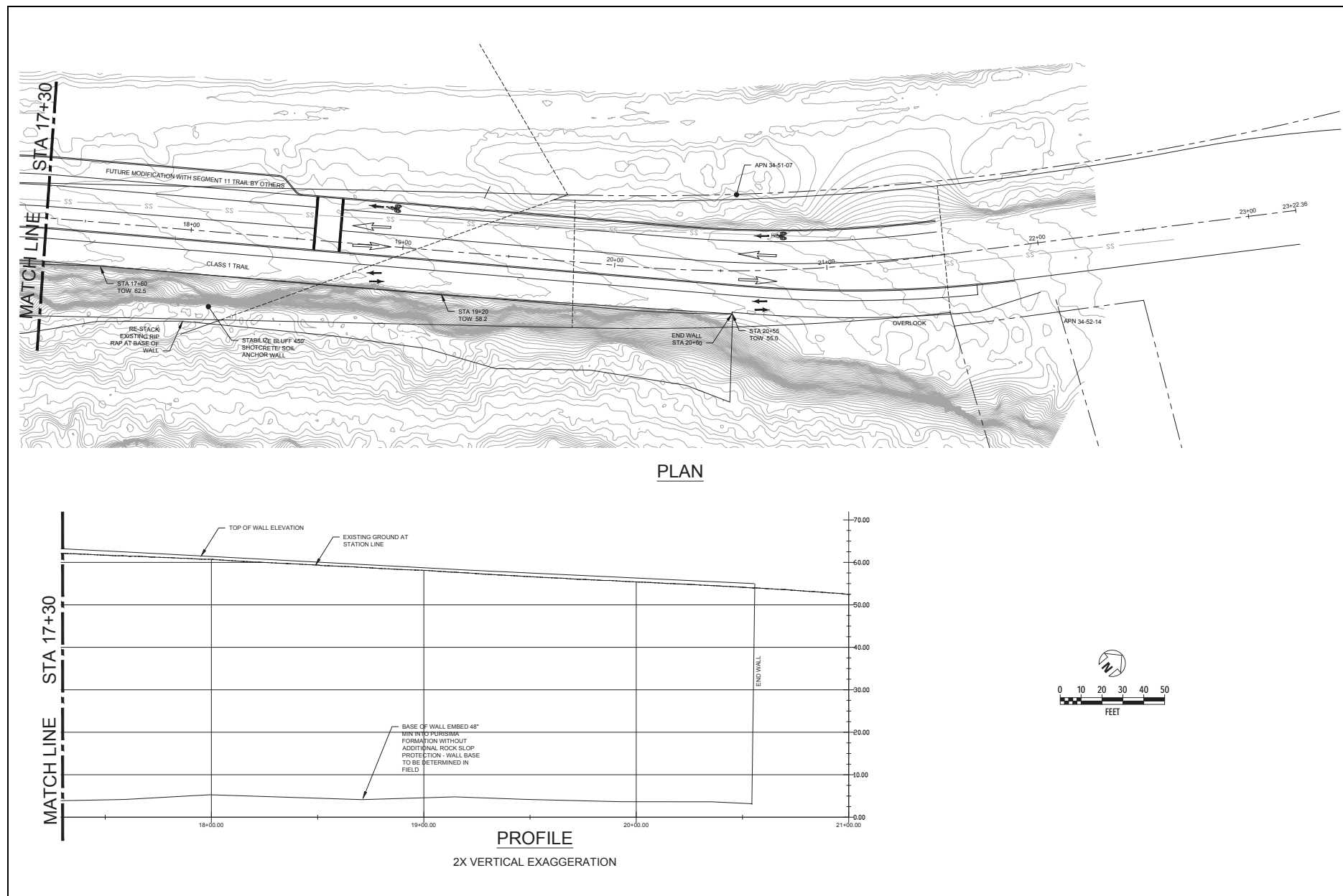


Figure 4b

Proposed Project Alignment (East Section)

Source: CSW | ST2 Engineering • Landscape Architecture • Surveying • Urban Planning

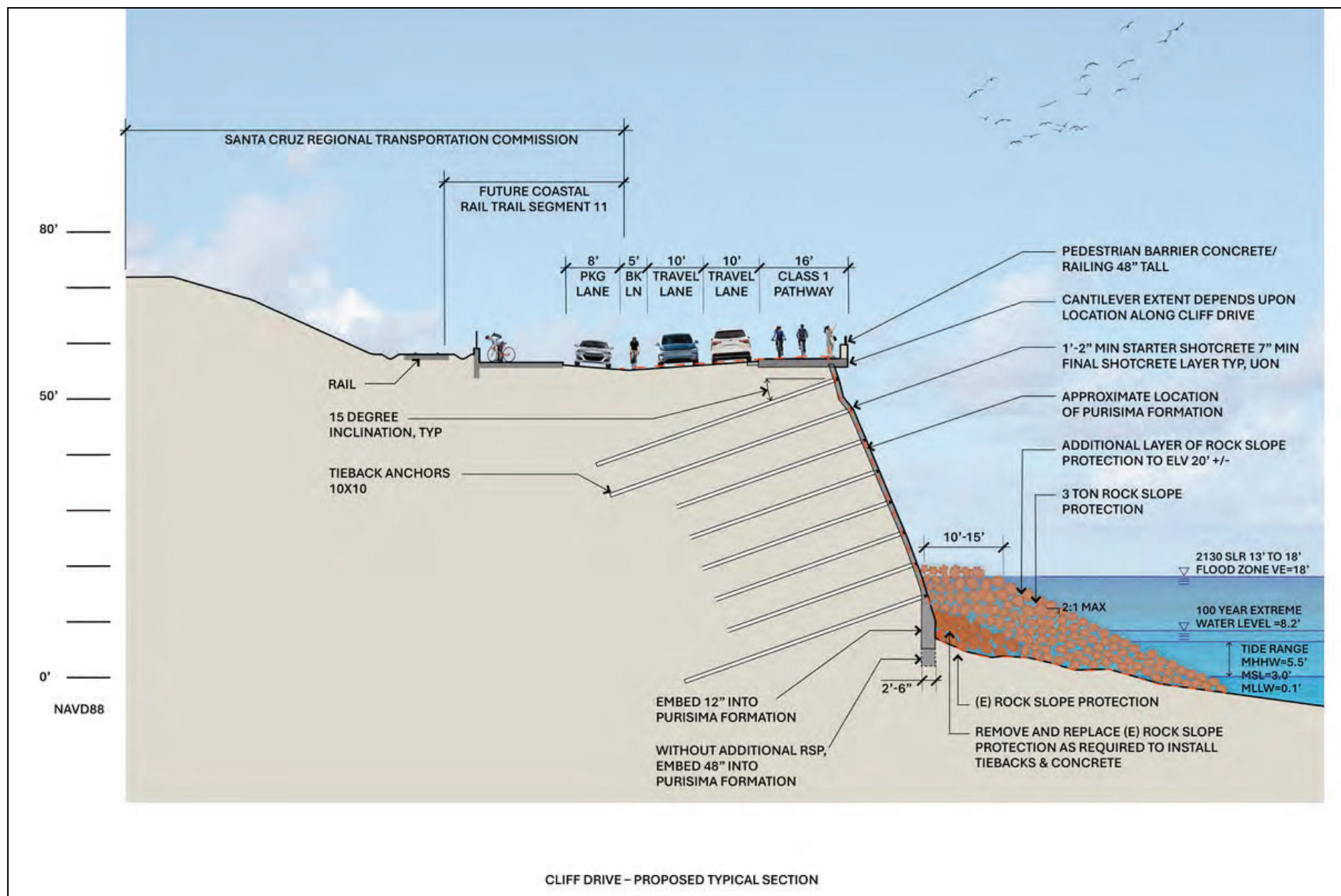


Figure 5
Proposed Roadway Cross-Section



Figure 6
Rendering of Proposed Project Alignment

The wall would be constructed with an initial layer of shotcrete and a final layer that would be sculpted and tinted to match the face of the cliff. After placement of the shotcrete, the contractor would replace the rock slope protection and add new 3-ton boulder rip-rap extending to an elevation of about 20 feet from the base of the bluff. The Project will also apply concrete facing at the base of bluff to protect against wave induced erosion, as well as at the top to stabilize the terrace deposit and provide the opportunity to widen the roadway to accommodate additional bicycle and pedestrian access. Pilasters that run vertically on the bluff would be placed to help support the weight of the upper wall segment. Project cross-sections are shown on **Figure 5**.

The project would be implemented in phases. Phase 1 of the project would partially but not fully cover the cliff with the shotcrete wall. It would also reinforce the rock revetment to support attenuating wave energy. The cost of this option would be equivalent to the City's current budget for construction. In future years, as the City obtains additional funds, the facing would be applied to additional areas of the bluff.

The proposed new roadway would be approximately 48 feet wide with one travel lane in each direction, with trails, parking, and a Class 1 bike lane in each direction. In the middle portion of the proposed alignment, parking would be available in areas on both sides of the roadway to accommodate visitors. Most of the parking area would be on the landward side of the roadway, with a limited number of spaces in an overlook adjacent to the bluff. On the eastern and western ends of the alignment, parking would be parallel to the roadway, on the northern side.

The project aims to avoid excavation and disturbance to the surface soils of the bluff by raising the elevation of the concrete sidewalk and asphalt paving, placing these materials atop the existing surface. East of the overlook, where the existing soil nail wall will be removed, the project will also remove an existing concrete foundation. In its place, a new cantilevered sidewalk will be installed. The maximum disturbance into the soils beneath the asphalt, concrete, or native materials will be approximately four inches.

No landscaping is proposed as part of the project.

Construction Activities

The work associated with this project would commence in late April of the construction year and be complete by late November pending favorable weather conditions. Work would not be completed during rain, high winds, or extremely high tides. All planning surveys, preconstruction surveys, avoidance and minimization measures, construction monitoring, and mitigation would be implemented as required during construction. The schedule of the work is shown on **Table 3**.

To construct the project, the contractor would work from Cliff Drive down the bluff's face. This would require closure of the east-bound lane for the duration of construction. The project would not detour traffic. It would allow one-way operation likely using portable signals on either end to allow

traffic through the zone. During construction, bikes would likely share the road with automobiles. Pedestrians would continue to be accommodated through the project area.

Table 3: Project Construction Activities and Durations	
Operation	Duration (Weeks)
Mobilization, traffic management, and erosion protection	1
Rip Rap Relocation	2
Soil nail and reinforcement installation	15
Shotcrete installation	3
Final shotcrete installation	3
Install final Riprap	3
Barrier and sidewalk installation	2
Final paving and striping	1

The project would prepare a Storm Water Pollution and Prevention Plan designed to minimize sediment dispersal into the Pacific Ocean. This plan would include the use of sediment barriers, tarps, and other measures to prevent the erosion of soil.

The Contractor would prepare a construction traffic control plan for review and approval by the City. The contractor would mobilize a crane on the bluff with a rock grapple, as shown below, to move the existing rip rap from the base of the cliff. This rip rap would be stored either at the base of the cliff or offsite until the base of the wall is constructed. The Contractor would replace the rip rap after the concrete wall cures. Similar to the original construction, workers would be lowered in baskets from the top of the bluff to install the soil nails, inject grout, and install reinforcement. Once completed, the contractor will apply the shotcrete facing in two lifts. Once the concrete has cured, the contractor would use the crane and rock grapple to install the existing and new rock slope protection.

Once the bluff repair work has been completed, the contractor would finalize installation of the sidewalks, barrier, pavement rehabilitation, and final striping. Pavement rehabilitation would be comprised of grinding the surface of the existing pavement and placing an asphalt overlay on the roadway. No roadway widening is proposed. Dust control would be by daily watering by watering trucks.

Clearing and grubbing would occur along the face of cliff to remove vegetation and loose material. Removed materials would be disposed of off-site.

No laydown areas have been defined. However, some material would be stored along the roadway at the top of the cliff. The Contractor would be required to store all material and equipment on a paved surface.

Drainage work would be isolated to modifying the outfalls on the bluff. This would include extending the culvert outfalls and directing their flow down the face of the bluff to the base of the cliff.

Work would generally occur Monday to Friday between 6 am and 5 pm. However, at certain times, work would need to occur during weekends and nights for favorable tide conditions. The number of workers on site would vary between six and ten.

Table 4, below, shows the materials and quantities to be used in project construction.

Table 4: Project Construction Materials (Full Project)		
DESCRIPTION	QUANTITY	UNIT
Rock Removal and Replacement	200	Tons
Clear and Grub	48,000/1000	SF/CY
Initial Anchor Wall Facing	4,000	CY
Final Anchor Wall Facing	48,000	SF
3 TON RSP	5,800	Tons
Storm Drain Outfall	2	Each
Soil Nail	77,000	LF
Sidewalk Concrete	3,000	SF
Sidewalk - Grade Beam	5,000	SF
Concrete Barrier	500	LF
Fence	500	LF
Asphalt Overlay	250	Tons
Source: City of Capitola Public Works Department SF: Square feet LF: Linear Feet CY: Cubic Yards		

State and Local Agency Approvals

The project would require the following governmental approvals:

- Approval of Project funding by the City Council of Capitola, grant agencies, and/or by ballot initiative;
- Approval of a Local Coastal Plan Amendment by the City of Capitola City Council
- Issuance of a Streambed Alteration Agreement by the California Department of Fish and Wildlife, pursuant to Fish and Game Code Section 1600;
- Federal Clean Water Act Section 401 Clean Water Certification by the San Francisco Bay Regional Water Quality Control Board; and
- California Coastal Commission approval of the Local Coastal Plan amendment and Coastal Development Permit.
- Coordination with Santa Cruz County Regional Transportation Commission for work in their Right of Way.
- Santa Cruz County approval for work on County lands

Federal Agency Approvals

- Federal Clean Water Act Section 404 Dredge and Fill Permit, and Rivers and Harbors Act Section 10 Permit from the U.S. Army Corps of Engineers.

III. INITIAL STUDY CHECKLIST

The initial study checklist recommended by the CEQA Guidelines is used to describe the potential impacts of the proposed Project on the physical environment.

I. Aesthetics

Would the Project:

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

Discussion

a, b, c) Primary views of the project site are from the roadway and trail above and from the beach below, as shown in **Photos 1 and 2**, below. Views of and from the roadway would be minimally altered with the project. During construction, equipment and materials would be visible along the roadway, but this impact would be temporary and would not significantly affect overall views. The proposed project would alter views of the bluff face from the beach below, substituting a sculpted concrete facing for the eroding natural bluff. While this would be a noticeable change, it would not necessarily be viewed as a negative one. In addition, access to the base of the bluff is limited and is already dominated by large boulder rip-rap, and a shotcrete nail wall already exists along the upper portion of part of the bluff face. Therefore, the project would not significantly adversely affect the bluff's appearance.

No large trees would be removed for the project and no historic buildings would be affected by the project. Overall, this impact would be **less than significant**.



Photo 1: Existing view of the bluff



Photo 2: View of existing nail wall with eroding bluff below

- d) The project would involve nighttime construction to allow construction at the base of the bluff (i.e. boulder placement) during low tides. During night construction, lighting would

be used to illuminate the face and base of the bluff. Some directional lighting also may be used on the eastern side of Cliff Drive to facilitate construction. Construction lighting would not be visible to the residents across Cliff Drive from the project site. Therefore, this impact would be **less than significant**.

II. Agricultural and Forestry Resources

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			X	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
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))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
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?			X	

Discussion

- a-e) The project site is a paved roadway and ocean-facing bluff. There are no forest lands or farmlands in the project vicinity. Therefore, the project would not result in the conversion of farmland or forestland to non-agricultural uses and thus, would have **no impact** on agricultural or forest resources.

III. 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. Would the project:

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

Background

The Project site contains a coastal section of Cliff Drive in the City of Capitola in south-central Santa Cruz County, which is part of the North Central Coast Air Basin (NCCAB). The NCCAB's main air quality problems are associated with ozone and particulate matter (the latter pollutant having two varieties of concern - PM₁₀ [particulate matter less than 10 microns in diameter] and PM_{2.5} [particulate matter less than 2.5 microns in diameter]), which tend to occur in the summer and fall when seasonal wind patterns and atmospheric conditions, in combination with local topography, restrict the dispersion of locally emitted pollutants or transport pollutants from the San Francisco Bay area or the Central Valley into the NCCAB. The NCCAB is designated "attainment" or "unclassified" for federal ambient air quality standards for ozone, particulate matter and all other major air pollutants; and similarly for state standards for all major pollutants except PM₁₀ (for which it is "nonattainment"), according to the California Air Resources Board (CARB) Area Designation Maps (<https://www.arb.ca.gov/desig/adm/adm.htm>).

The Monterey Bay Air Resources District (MBARD) is the regional agency responsible for air pollutant control and air quality planning in the NCCAB. The most recently adopted air quality plan for the region is the *2012-2015 Air Quality Management Plan* (AQMP; MBARD 2017). The MBARD maintains a number of air quality monitoring stations in the NCCAB, which continually measure the ambient concentrations of major air pollutants. The closest NCCAB monitoring station to the Project site is at 2544 Soquel Avenue in Santa Cruz, about 2 miles northwest of the Project site. The data collected shows a single violation of the federal PM_{2.5} particulate standard within the past three years (see **Table AQ-1**). The few recently recorded standard violations at all

other NCCAB monitoring stations have not been sufficiently severe or frequent to affect the above-mentioned official attainment status designations of the NCCAB.

Table AQ-1: Local Ambient Air Quality Monitoring Summary

Pollutant	Air Quality Standard	Maximum Concentrations and Number of Days Standards Exceeded		
		2021	2022	2023
Ozone				
Maximum 8-hour concentration (ppm)	70 ppm	58	50	54
# Days 8-hour federal standard exceeded		0	0	0
Suspended Fine Particulates (PM _{2.5})				
Maximum 24-hour concentration (µg/m ³)	35 µg/m ³	17.5	14.7	47.4
# Days federal 24-hour standard exceeded		0	0	1
Notes: As monitored at the MBARD station at 2544 Soquel Avenue in Santa Cruz. µg/m ³ = micrograms per cubic meter ppm = parts per million.				
Source: CARB, iADAM: Air Quality Data Statistics https://www.arb.ca.gov/adam/				

In addition to the major air pollutants (as identified above), many other chemical compounds, generally termed toxic air contaminants (TACs), pose a present or potential hazard to human health through airborne exposure. A wide variety of stationary sources (e.g., dry cleaning facilities, gasoline stations, and emergency diesel-powered generators, etc.) and mobile sources (e.g., motor vehicles, construction equipment, etc.), emit TACs. The health effects associated with TACs are quite diverse. TACs can cause adverse health effects with long-term exposure (e.g., cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage) or from short-term exposure (e.g., eye watering, respiratory irritation, running nose, throat pain, and headaches). Most of the estimated carcinogenic/chronic health risk in California can be attributed to relatively few airborne compounds. The CARB has identified particulate matter from diesel-fueled engines (DPM) as being responsible for about 70 percent of the cumulative cancer risk from all airborne TAC exposures in California (*Summary: Diesel Particulate Matter Health Impacts* <https://ww2.arb.ca.gov/resources/summary-diesel-particulate-matter-health-impacts>)

The analytical methodologies and significance criteria as specified in *CEQA Air Quality Guidelines* (Guidelines; <https://www.mbard.org/files/0ce48fe68/CEQA+Guidelines.pdf> MBARD, 2008) were used to assess the Project's emissions of air pollutants from construction operations and the potential for exposure of local sensitive receptors to DPM in the construction equipment exhaust.

The *Guidelines* specific significance criteria relevant to evaluating this project's construction air quality impacts are listed below:

- **Ozone Precursor Emissions.** Construction equipment (e.g., cranes, excavators, dump trucks, loaders, etc.) emit ozone precursors (i.e., nitrogen oxides [NO_x] and reactive organic gases [ROG]). According to the *Guidelines*, such precursors emitted from all NCCAB construction activities are accommodated in the NCCAB's emission inventories for the AQMP. Thus, construction emissions of ozone precursors from any particular development project or from the total annual emissions from all construction projects would have a less-than-significant impact on the attainment/maintenance of the ozone ambient air quality standards in the NCCAB.
- **Particulate Emissions.** According to the *Guidelines*, PM₁₀ emissions exceeding 82 lbs. /day from construction projects (i.e., total from equipment exhaust and fugitive sources) from any development project would have a significant impact on the attainment/maintenance of the state PM₁₀ ambient air quality standard in the NCCAB. Based on this threshold, the *Guidelines* set the following limits on the active daily area worked at construction sites to assure that the daily PM₁₀ emissions from fugitive sources are below the 82 lbs. /day emission threshold:
 - Construction with Minimal Earthmoving – 8.1 acres/day
 - Construction with Earthmoving (grading, excavation, etc.) – 2.2 acres/day
- **TAC Health Risk.** According to the *Guidelines*, any development project with the potential to increase cancer risk from TAC emissions to local maximally exposed sensitive receptors by 10 in one million or more during construction or operation would have a significant impact.

Discussion

- a) The Project would comply with the federal Clean Air Act by not causing or contributing to violations of federal ambient air quality standards. As indicators of compliance with these standards, the US Environmental Protection Agency (EPA) General Conformity rule (<https://www.epa.gov/general-conformity/what-general-conformity>) specifies de minimis emission thresholds (<https://www.epa.gov/general-conformity/de-minimis-tables>) for ozone precursors and the other major air pollutants. As shown in **Table AQ-2**, Project construction and operational emissions are less than the de minimis thresholds for all major criteria pollutants. Thus, the Project would be in conformity with California's State Implementation Plan (SIP) for the attainment of federal air quality standards and would not make cumulatively considerable contributions to the NCCAB ambient ozone or particulate matter levels.

Table AQ-2: Project Emissions Compared with EPA De Minimis Thresholds (tons/year)

Pollutant	Santa Cruz County Federal Attainment Status ^a	EPA De Minimis Threshold ^b	Project Construction Emissions ^c	Project Operational Emissions
Oxides of Nitrogen (NO _x)	Attainment/Unclassified (for ozone)	100	1.693	0
Reactive Organic Gases (ROG)	Attainment/Unclassified (for ozone)	100	0.061	0
Particulate Matter (PM _{2.5})	Attainment/Unclassified	100	0.057	0
Particulate Matter (PM ₁₀)	Unclassified	100	0.052	0
Notes: Emission estimates assume project construction equipment with California-average emitting engines during the year 2025 construction period. ^a Source: CARB, Area Designations Maps / State and National https://www.arb.ca.gov/desig/adm/adm.htm ^b Source: EPA, General Conformity De Minimis Tables https://www.epa.gov/general-conformity/de-minimis-tables ^c Emissions from Project construction equipment (as specified in the Project Description) were calculated using the CalEEMod Model, Version 2022.1.				

- b) **Construction Impacts.** Project construction would also produce air pollutant emissions in the construction equipment exhaust and as components of fugitive dust generated by earthmoving, excavation, grading, etc. **Table AQ-3** shows the daily emissions of ozone precursors and particulates from the construction equipment exhaust. Such emissions alone would not exceed any established MBARD significance threshold.

However, additional particulate emissions would come from fugitive sources associated with earthmoving activities and vehicle travel over unpaved surfaces. The Project would remediate coastal bluff erosion and the undermining of approximately 800 feet of Cliff Drive in Capitola. Given that the average width of the total area where project construction would occur (i.e., from the east edge of the parking area adjacent and east of Cliff Drive to the Pacific Ocean) is about 100 feet, the maximum total active area for Project construction is about 1.8 acres. Thus, maximum total active Project construction area would be less than the MBARD 2.2-acre limit to assure that PM₁₀ in fugitive particulate emissions would not exceed 82 lbs. /day, the MBARD threshold.

Further, since the impacts of the Project's construction ozone precursors are already accounted for in the emission inventories of the AQMP and its net new operational ozone precursor emissions would be zero, the Project would not significantly interfere with the maintenance of the ozone ambient air quality standards in the NCCAB.

Table AQ-3: Project Construction Emissions by Phase (daily average in lbs.)

Project Phase/Duration Emission Source	ROG	NOx	PM10 (Exhaust)	PM 2.5 (Exhaust)
Mobilization, traffic management, and erosion protection				
Off-Road Construction Equipment	0.37	3.83	0.16	0.15
Supply/Debris/Concrete Trucks	0.002	0.211	0.001	0.001
Worker Commute Vehicles	0.004	0.017	0.002	0.002
Subtotal	0.379	4.055	0.166	0.152
Rip Rap Relocation				
Off-Road Construction Equipment	1.49	12.87	0.50	0.46
Supply/Debris/Concrete Trucks	0.005	0.690	0.003	0.003
Worker Commute Vehicles	0.004	0.017	0.002	0.002
Subtotal	1.500	13.578	0.506	0.466
Soil nail and reinforcement installation				
Off-Road Construction Equipment	3.77	29.73	1.01	0.92
Supply/Debris/Concrete Trucks	0.002	0.211	0.001	0.001
Worker Commute Vehicles	0.004	0.017	0.002	0.002
Subtotal	3.777	29.960	1.008	0.925
Shotcrete installation				
Off-Road Construction Equipment	5.91	48.40	1.52	1.39
Supply/Debris/Concrete Trucks	0.003	0.421	0.002	0.002
Worker Commute Vehicles	0.004	0.017	0.002	0.002
Subtotal	5.913	48.835	1.523	1.398
Final shotcrete installation				
Off-Road Construction Equipment	5.91	48.40	1.52	1.39
Supply/Debris/Concrete Trucks	0.000	0.211	0.000	0.000
Worker Commute Vehicles	0.004	0.017	0.002	0.002
Subtotal	5.910	48.625	1.521	1.396
Install final Riprap				
Off-Road Construction Equipment	1.49	12.87	0.50	0.46
Supply/Debris/Concrete Trucks	0.002	0.211	0.001	0.001
Worker Commute Vehicles	0.004	0.017	0.002	0.002
Subtotal	1.496	13.098	0.504	0.464
Barrier and sidewalk installation				
Off-Road Construction Equipment	0.47	4.24	0.13	0.12
Supply/Debris/Concrete Trucks	0.003	0.421	0.002	0.002
Worker Commute Vehicles	0.004	0.017	0.002	0.002
Subtotal	0.480	4.679	0.130	0.120
Final paving and striping				
Off-Road Construction Equipment	0.17	1.63	0.08	0.07
Supply/Debris/Concrete Trucks	0.002	0.211	0.001	0.001
Worker Commute Vehicles	0.004	0.017	0.002	0.002
Subtotal	0.176	1.861	0.082	0.075
Highest Daily Average	5.913	48.835	1.523	1.398
CalEEMod (Version 2022.1) User's Guide Appendix G lists all the numerical values in the model database used to calculate project criteria and GHG pollutant emissions. Diesel-powered construction equipment emission factors from the OFFROAD model and on-road motor vehicle emission rates from EMFAC2025 (the CARB's EPA-approved motor vehicle emission model) for haul trucks and worker commute vehicles were used along with project-specific equipment type/number and truck/worker commute trips to estimate project construction emissions by Excel spreadsheet.				

Operational Impacts. The Project would implement cliff stabilization, erosion control, and roadway improvements to an existing coastal section of Cliff Drive in Capitola. Once complete, no additional operational emissions would be generated from the motor vehicles using it or from normal, ongoing roadway maintenance activities. Thus, Project operational impacts would be **less than significant**.

- c) The Project could adversely impact local PM10 concentrations at existing residential sensitive receptors just northeast of the project site during construction. To limit the generation of fugitive dust, construction best management practices (BMPs, as detailed below) shall be implemented as required in the MBARD *Guidelines*. Thus, Project construction impacts on local ambient PM10 concentrations would be reduced to a **less than significant** level.

BMPs for Fugitive Dust Emission Minimization

The construction contractor shall implement a Dust Control Plan that shall include the following measures:

- Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure.
- Prohibit all grading activities during periods of high wind (over 15 mph).
- Haul trucks shall maintain at least 2'0" of freeboard.
- Cover all trucks hauling dirt, sand, or loose materials.
- Cover inactive storage piles.
- Sweep streets if visible soil material is carried out from the construction site.
- Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the MBARD shall be visible to ensure compliance with MBARD's fugitive dust control rules.

There is the potential for an adverse health impact from the exposure of nearby residential sensitive receptors to the DPM emitted by the diesel-powered equipment and haul trucks during Project construction. The total DPM emissions from project construction equipment were estimated and the SCREEN3 dispersion model⁴ was used to estimate cancer health risk at the closest residential receptors: 3.7 in a million, compared with the MBARD significance threshold of 10 in a million. This relatively low value for cancer risk is reasonable given the relatively short time during which the Project emissions would occur (i.e., about six months total for all Project construction activities). Thus, there would be a **less than significant** impact to sensitive receptors from ambient exposure to DPM from project construction equipment.

⁴ SCREEN3 Model Users Guide, <https://gaftp.epa.gov/Air/aqmg/SCRAM/models/screening/screen3/screen3d.pdf> USEPA, September 1995

- d) The MBARD significance criteria for odors are subjective and are based on the frequency of odor complaints associated with an identified odor source. Generally, the MBARD considers any project with the potential to frequently expose substantial populations to objectionable odors as a significant odor impact. With respect to the Project, diesel-fueled construction equipment exhaust would generate some odors. However, these emissions would be expected to dissipate quickly in the strong prevailing westerly winds of the Pacific Coast and would be unlikely to affect a substantial number of people over the six months of Project construction. The Project also would not introduce new operational odor sources. Thus, Project odor impacts would be **less than significant**.

IV. Biological Resources

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
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?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		
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?				X

Background

The biological resource impact assessment is based on the Cliff Drive Resiliency Project – Biological Resources Assessment (Sunset Ecological Solutions, June 4, 2026). That report incorporates and updates the earlier Botanical and Natural Communities Study (BNCS) prepared by Ecological Concerns Incorporated (June 17, 2024) and a Biological Resources Assessment (BRA) prepared by Albion (May 2024). These studies included reconnaissance-level site surveys,

rare plant surveys, and a “Desktop” review of biological resources, including examination of published literature, related environmental assessments and regional biological conservation plans, aerial photo analysis, and biological databases.

Regulatory Background

Waters of the US

Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (CWA) apply to all waters, including wetlands, that have a continuous surface connection to a navigable water. The landward limits of Section 10 jurisdiction in tidal waters extend to the mean high water (MHW) line in tidal (navigable) waters of the U.S., while the Section 404 landward limits extend to the HTL and extent of any adjacent wetlands. Any actions within Section 10 or the Rivers and Harbors Act or Section 404 of the CWA are subject to jurisdiction from the U.S. Army Corps of Engineers (USACE). At the time this report was written, the USACE and the Environmental Protection Agency (EPA) released a proposed rule to revise the federal definition of waters of the United States (WOTUS). The proposed rule implements the U.S. Supreme Court’s 2023 decision in *Sackett v. EPA*, which concluded WOTUS is limited to “relatively permanent” waters and wetlands with a “continuous surface connection” to those waters. This report reflects the laws and implementations of the CWA and definitions at the time of writing.

Additionally, CWA Section 401 requires an applicant for any federal permit that proposes an activity which may result in a discharge to “waters of the United States” to obtain certification from the state that the discharge will comply with other provisions of the Act. Certification is provided by the Central Coast Regional Water Quality Control Board (RWQCB).

Waters of the State

The Porter-Cologne Act (“PCA”, Division 7 of the California Water Code) is the primary state regulation that addresses water quality standards. Under the act, the State Water Regional Control Board has the ultimate authority over water rights and water quality policy. The state and regional boards regulate all pollutant or nuisance discharges that may affect either surface water or groundwater.

Critical Habitat

Critical habitat is a term defined in the Federal Endangered Species Act (ESA) as a specific, formally-designated geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or Projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or Projects do not adversely modify critical habitat to the point that it will no longer aid in the species’ recovery. In

many cases, this level of protection is similar to that already provided to species by the ESA jeopardy standard. However, designated critical habitat areas that are currently unoccupied by the species but which are needed for the species' recovery are protected by the prohibition against adverse modification.

Special-Status Species

Special-status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed species and those that are formal candidates for listing. In addition, the California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSCs; species/taxa that face extirpation in California if current population and habitat trends continue), and CDFW California Fully Protected Animals (species for which CDFW will not authorize take) are all considered special-status species. Although SSCs generally have no special legal status, they are given special consideration under CEQA. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (Rank) of 1, 2, and 3 (CNPS 2026) are also considered special-status plant species and must be considered under CEQA.

In addition to regulations for special-status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (CFGF). Under these laws, deliberately destroying active bird nests, eggs, and/or young is illegal.

Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. These habitats are protected under federal regulations such as the CWA; state regulations such as the PCA, the Streambed Alteration Program, and CEQA; or local ordinances or policies such as city or county tree ordinances, Special Habitat Management Areas, and General Plan Elements.

California Coastal Act

The California Coastal Act (Coastal Act) of 1976 regulates land usage, development, and protection along the California coast. The California Coastal Commission (CCC) oversees the land use and development along the Coastal Zone. The Coastal Act provides policies that regulate the protection and expansion of public access to the shoreline and recreational opportunities and resources; protection, enhancement and restoration of environmentally sensitive habitats, including intertidal and nearshore waters, wetlands, bays, estuaries, riparian habitat, certain woodlands and grasslands, streams, lakes habitat for rare or endangered plants or animals; protection of productive agricultural lands, commercial fisheries and archaeological resources; protection of the scenic beauty of coastal landscapes and seascapes; practical

establishment of urban-rural boundaries and directing new housing and other development into areas with adequate services to avoid wasteful urban sprawl and leapfrog development environmentally sound expansion of existing industrial ports and electricity-generating power plants, as well as for the siting of coastal dependent industrial uses; and protection against loss of life and property from coastal hazards.

Specific ecological features are regulated under the Coastal Act, including wetlands and environmentally sensitive habitat areas (ESHA). Wetlands, as defined in Section 30121 of the Coastal Act, are lands within the coastal zone that may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens. ESHAs, as defined in Section 30107.5 of the Coastal Act, are any areas 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.

Under the Coastal Act, local cities and counties are required to develop a Local Coastal Program (LCP) that aligns with the Coastal Act. LCPs identify the location, type, densities, and other regulations and policies for future development within each LCP's zone. LCPs are formally reviewed by the California Coastal Commission to ensure consistency with the Coastal Act. Once an LCP is approved by the Coastal Commission, permitting authority is transferred to the local jurisdiction, with the exception of proposed developments along the immediate shoreline, which remains with the Coastal Commission. LCPs may designate and protect specific biological resources that are identified as rare within the specific region.

City of Capitola Local Coastal Program

The City of Capitola LCP, certified in 1981, regulates land development within the City of Capitola Coastal Zone. The purpose of the LCP is to carry out the policies of the California Coastal Act of 1976. The Capitola LCP covers the entire jurisdiction area, which extends landward beyond the Coastal Zone boundary. Most development activities require that a Coastal Development Permit (CDP) be issued by the City.

Within the Capitola LCP, an ESHA is further defined as any areas in which plant or animal life of 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. An ESHA includes wetlands, coastal streams and riparian vegetation, terrestrial ESHA, including habitats of plant and animal species listed under the federal of CESA. Terrestrial ESHAs include non-aquatic habitats that support rare and endangered species; coastal dunes; roosting nesting habitats; and riparian vegetation that is not associated with a perennial or intermittent stream. Specific ESHAs identified within the Capitola LCP include:

- A. Soquel Creek, Lagoon, and Riparian Corridor.
- B. Noble Gulch Riparian Corridor.
- C. Tannery Gulch Riparian Corridor.

D. Monarch butterfly habitat – Rispin-Soquel Creek and Escalona Gulch.

City of Capitola Tree Regulations

The City requires a tree removal permit be obtained prior to the removal of any trees under Chapter 12.12 of the City of Capitola Municipal Code. A removal permit is required when a tree is pruned, trimmed, or cut off, affecting twenty-five percent or more of the crown and/or the volume of foliage and branches. A tree is defined as a usually tall woody plant, distinguished from shrub by having, at maturity, comparatively greater height and characteristically, a single trunk rather than several stems, and a minimum 6-inch diameter measured at 48 inches above existing grade or at average breast height (abh). If a tree is within the boundaries of an ESHA, all sizes of trees, including seedlings, require a permit from the City of Capitola.

A heritage tree removal permit also is required for any tree on public or private property that is designated as locally significant, historic, scenic, or mature and appears on the heritage tree list.

Biological Resources Setting

The Study Area consists of 8.415 acres in total, consisting of arroyo willow scrub, bare/unvegetated, coastal bluff scrub, coyote brush scrub, developed, intertidal rip rap, intertidal rocky shore, intertidal sandy beach, kelp bed, ruderal, seep, subtidal, and supralittoral rip rap. Descriptions for each biological community are contained in the following sections and listed below in Table BIO-1. When applicable, the biological communities containing vegetation were assigned an association or alliance based on the CDFW Natural Communities list (CDFW 2026a).

Table BIO-1. Biological Communities

Biological Community	Area (acres)
Arroyo Willow Scrub	0.113
Bare/Unvegetated	0.187
Coastal Bluff Scrub	0.015
Coastal Scrub	0.082
Developed	1.443
Intertidal Rip rap	0.545
Intertidal Rocky Shore	0.057
Intertidal Sandy Beach	1.077
Kelp Bed	0.123
Ruderal	1.461
Seep	0.008

Subtidal	3.173
Supralittoral Rip rap	0.131
Total	8.415

Non-Sensitive Biological Communities

Bare/Unvegetated. Approximately 0.187 acres of the Study Area is comprised of unvegetated, bare surfaces. The unvegetated areas are located on the cliff face where the slope is near vertical and too steep to support vegetation. Due to the near-vertical incline and lack of vegetation, these zones are unlikely to support local wildlife.

The unvegetated surfaces are above the HTL and is not considered sensitive by CDFW, nor is it considered Waters of the U.S. or State. It is also not considered an ESHA by the CCC.

Developed. Approximately 1.443 acres of the Study Area is comprised of hardscape/developed. Hardscape consists of impermeable surfaces that do not support vegetation. Within the Study Area, Cliff Drive and the parking areas are considered hardscape. No vegetation was observed. Hardscape areas are unlikely to provide habitat for any wildlife found within the local area. See Appendix C, Photos 4,7,9 and 11 for images of Cliff Drive and associated parking areas.

Developed areas are not located within the jurisdiction of the USACE or RWQCB, not considered sensitive by CDFW, nor considered an ESHA by the CCC.

Ruderal. Approximately 1.461 acres of the Study Area is comprised of ruderal and non-native vegetation. Although not described in the literature, ruderal areas typically occur on land that has been previously disturbed and was subsequently colonized by non-native or invasive plant species. Within the Study Area, majority of vegetated areas of the cliff face are dominated by non-native annual grass and herbaceous plants, including Andean pampas grass (*Cortaderia jubata*), common mustard (*Brassica rapa*), wild oat (*Avena fatua*), and wild radish (*Raphanus raphanistrum*). Pampas grass was observed to be the dominant plant within the vegetated areas of the cliff face. Ruderal vegetation is also present west of Cliff Drive, which also consists of annual non-native grasses and ornamental plants, including pincushions (*Scabiosa atropurpurea*) and red valerian (*Valeriana rubra*). Common wildlife species, such as raccoons (*Procyon lotor*), opossums (*Didelphis virginiana*), rodents, and non-nesting birds may be present within the ruderal habitat.

Ruderal areas are not located within the jurisdiction of the USACE or RWQCB, not considered sensitive by CDFW, nor considered an ESHA by the CCC.

Supralittoral Rip-Rap. Approximately 0.131 acres of the Study Area is comprised of previously installed rip-rap rocks within the supralittoral (splash) zone. The rip-rap is located along the base of the cliff and along the entire shoreline within the Study Area. Supralittoral rip-rap is characterized as any rock placed above and outside of the High Tide Line (HTL) for shoreline stabilization. No vegetation was present on the rip rap above the HTL with the exception of small

amounts of kelp. The rip-rap areas along the shoreline may provide moderate quality foraging and perching areas for seabirds. Rip rap below the HTL is described further below.

The supralittoral rip rap is not located within the jurisdiction of the USACE or RWQCB as it is above the HTL. It is not considered sensitive by CDFW, nor considered an ESHA by the CCC.

Sensitive Biological Communities

Arroyo Willow Scrub. Approximately 0.113 acres of the Study Area is comprised of willow scrub. A patch of arroyo willow (*Salix lasiolepis*) is located in the northeastern corner of the Study Area, west of Cliff Drive and bounded by railroad tracks to the west and coastal scrub to the south. The patch of willow scrub was thick and was not able to be walked through by foot. The willow scrub may support nesting birds as well as non-special status amphibians in addition to the wildlife species listed in the Ruderal community above.

The willow scrub association is not considered sensitive, however the *Salix lasiolepis* alliance within that association is considered sensitive by CDFW (CDFW 2026b). Arroyo willow is listed as FACW, which indicates the species is affiliated with wetlands, under the USACE National Wetland Plant List in the Western Mountains, Valleys, and Coast Region. Because the CCC uses a one-parameter wetland definition, willow scrub may be considered a CCC wetland, which is an ESHA under the CCC.

Coastal Bluff Scrub. Small patches of coastal bluff scrub were observed along the cliff face, totaling 0.015 acres. Three small patches of yellow bush lupine (*Lupinus arboreus*) were observed on the cliff face. One patch is located near the southeastern end of the Study Area, directly below the southern end of the parking area. Another patch of coastal bluff scrub, characterized by western poison oak (*Toxicodendron diversilobum*) and blueblossom (*Ceanothus thyrsiflorus*) is located directly below the northern end of the parking area. These patches of coastal bluff scrub were also described and identified in the previous botanical and natural communities report conducted in 2024 (ECI 2024). Small birds may use coastal bluff scrub as nesting and foraging habitat. Common reptiles and amphibians, such as the California slender salamander (*Batrachoseps attenuatus*), may utilize the understory of the coastal bluff scrub. The fragmented nature of the coastal bluff scrub habitat suggests that any resident wildlife populations are inherently small and constrained.

The coastal bluff scrub is not located within the jurisdiction of the USACE or RWQCB. Both coastal bluff scrub patches are not considered sensitive habitats by CDFW (CDFW 2026b). Both the yellow bush lupine alliance and poison oak scrub are classified as non-sensitive (S4, CDFW 2026b). No direct associations within the CDFW database matched with the vegetation composition observed in the coastal bluff scrub patches.

However, coastal bluff scrub as a whole may be considered ESHA by the CCC. While the Study Area contains patches of coastal bluff scrub, these areas are small, fragmented, and lack connectivity to broader sensitive ecosystems. In Sunset's professional judgment, this habitat is not considered an ESHA because it lacks the robust ecological functionality found in larger,

contiguous scrub environments. Ultimately, however, the CCC has final determination regarding ESHA status.

Coastal Scrub. Approximately 0.082 acres of the Study Area is comprised of coastal scrub. The coastal scrub lies on the western side of Cliff Drive in the northwestern portion of the Study Area, adjacent to the willow scrub and ruderal vegetation. This area is primarily composed of coyote brush (*Baccharis pilularis*), California blackberry (*Rubus ursinus*), and English ivy (*Hedera helix*). Small birds may use coastal scrub as nesting and foraging habitat. See Appendix C, Photo 9 for an image of the coastal scrub.

The coastal scrub is not located within the jurisdiction of the USACE or RWQCB. Coyote brush scrub is not classified as a sensitive community by CDFW. However, coastal scrub as a whole may be classified as an ESHA by the CCC.

Intertidal Rip-rap. Approximately 0.545 acres of the Study Area is comprised of intertidal rip rap. Intertidal rip rap consists of the previously placed rip rap along the shoreline for erosion protection, below the HTL. The HTL was delineated by physical indicators such as fine debris, aquatic vegetation lines and coloration of the rip rap. This area is regularly subject to tidal action and is periodically inundated or exposed depending on the tide level. Drift wood and car tires were observed to have been washed onto the rip rap. California mussels and other marine invertebrates, red algae, and sea lettuce (*Ulva spp.*) were observed on the rip rap surface along the entire intertidal zone. At the time of the site visit, the tide was receding and reached low tide (0.1 ft NAVD88), exposing the entire rip rap shoreline.

The rip rap intertidal zone, which encompasses the portion of rip rap below of the HTL is considered Waters of the U.S. under section 404 of the CWA and Waters of the State under the PCA. Additionally, portions of the rip rap below the mean high water are considered Navigable Waters under Section 10 of the RHA and are considered as ESHA under the CCC. It is not considered sensitive under CDFW.

Intertidal Rocky Shore. Approximately 0.057 acres of the Study Area is comprised of intertidal rocky shore. The natural rocky shore is found at the base of the cliff, jutting out approximately 25 feet from the base of the cliff into Monterey Bay. The rocky shore is primarily barren of any vegetation, although California mussel (*Mytilus californianus*) and other sessile and mobile invertebrates, and sea lettuce and other kelps cover portions of the natural rock outcropping. At the time of the site visit, the tide was receding and reached low tide (0.1 ft NAVD88), exposing the entire rock face. The natural rock outcrop may provide perching habitat for seabirds but is unsuitable for nesting habitat.

The natural rock is below the HTL and considered Waters of the U.S. and Waters of the State and is considered as ESHA under the CCC. It is not considered sensitive by CDFW.

Intertidal Sand Beach. The intertidal sand beach consists of a narrow sand beach, typical of the shoreline along Monterey Bay. The sand beach consists of 1.077 acres of the Study Area. The sand beach transitions the subtidal zone to the rip rap intertidal. The beach interface maintains a width of 10-20 feet and terminates at the rip rap. No vegetation persists within the sand beach. At the time of the site visit, the tide was receding and reached low tide (0.1 ft NAVD88), exposing

the entire sand beach intertidal zone. During low tides, marine mammals such as California sea lion, Pacific harbor seal, and Steller sea lion may utilize the exposed sand beach habitat as a temporary haul-out site.

The sand beach areas are considered Waters of the U.S. and Waters of the State, as they are located below the HTL. Additionally, lower-elevation portions of the beach face are situated below the mean high-water mark and may be designated as Navigable Waters under Section 10 of the RHA. Additionally, these beach habitats are classified as an ESHA under the CCC.

Kelp Bed. Approximately 0.123 acres of the Study Area is comprised of kelp beds. The kelp beds lie within the subtidal zone of the Study Area. Kelp species observed include feather boa kelp (*Egregia menziesii*), bull kelp (*Nereocystis luetkeana*), and giant kelp (*Macrocystis pyrifera*). The beds observed within the Study Area were patchy and each patch was no larger than 1,400 square feet. Kelp beds provide crucial habitat for marine wildlife, including seals, sea lions, sea otters, invertebrates, fish, and birds. Marine wildlife utilizes kelp beds for foraging, refuge, hunting, and spawning.

The kelp beds are considered Waters of the U.S. and Waters of the State, as they are located below the HTL. Additionally, the kelp beds are considered Navigable Waters under Section 10 of the RHA. The kelp beds would also be classified as an ESHA under the CCC.

Seep. Approximately 0.008 acres of the Study Area is comprised of a seep and associated vegetation. Three distinct seep areas were identified. The southern most seep area is located adjacent to the rip rap, approximately 25 feet south from the exposed natural rock outcrop. The source of this seep could not be determined from the site visit. The second seep area is located directly above the natural rock outcrop and below an existing outfall. Leakage from or associated with the outfall was assumed to be the source of the seep.

Vegetation within these two seep areas consisted of bristly ox-tongue (*Helminthotheca echinodes*), iceplant (*Carpobrotus edulis*), and seep monkey flower (*Erythranthe guttata*). The third seep area is located approximately 100 feet northeast of the outfall seep. Due to accessibility constraints, the specific grass species within this seep could not be determined. Because the seep areas are small, isolated, and located on a cliff face, it is unlikely the seep areas would support any significant wildlife species. It is expected that the seep areas would provide minimal foraging habitat for birds and insects.

The seep is not likely to be considered as Other Waters of the U.S. by the USACE, as it is not adjacent to a “relatively permanent water”. Additionally, seep hydrology appears to be artificial from a leaking outfall. However, a formal wetland delineation would need to be conducted to determine if the seep areas are large enough to be considered jurisdictional by the USACE.

Seep habitats may be considered sensitive by CDFW, and may be considered as an ESHA under the CCC as it would potentially meet the one parameter wetland definition. While the Study Area contains seep vegetation, these areas are small, fragmented, and lack connectivity to broader sensitive ecosystems. In Sunset’s professional judgment, these seep areas are not considered an ESHA nor sensitive habitat because it lacks the robust ecological functionality found in larger,

contiguous wetland environments. Ultimately, however, the determination regarding ESHA designations and sensitive biological communities is held by the CCC and CDFW, respectively.

Subtidal. Approximately 3.173 acres of the Study Area are situated within the shallow subtidal zones of Monterey Bay. However, the majority of the subtidal environment within the Study Area remains open water. Marine mammals, including California sea lion (*Zalophus californianus*), Pacific harbor seal (*Phoca vitulina richardii*), and Steller sea lion (*Eumetopias jubatus*) may utilize the subtidal areas within the Study Area for foraging. Various fish species and seabirds, including pelicans, terns, loons, grebes, cormorants, and mergansers may also utilize the subtidal areas for foraging.

The subtidal zone is considered Waters of the U.S. and Navigable Waters, as well as Waters of the State. The subtidal zone may also be classified as an ESHA.

Critical Habitat

Portions of the Study Area below the HTL are located within Critical Habitat for green sturgeon (*Acipenser medirostris*) and leatherback sea turtle (*Dermochelys coriacea*). Critical Habitat for killer whale (*Orcinus orca*) is located 0.33 miles offshore and humpback whale (*Megaptera novaeangliae*) is located 1.17 miles offshore. Critical Habitat for central California coast steelhead (*Oncorhynchus mykiss*) is located 0.1 miles northeast in Soquel Creek, 2.56 miles east in Arana Gulch Creek, and 2.60 miles in Aptos Creek. Black abalone (*Haliotis cracherodii*) Critical Habitat is located 1.47 miles southwest off the coast of Pescadero State Beach to Natural Bridges State Beach, tidewater goby (*Eucyclogobius newberryi*) 1.22 miles west at the mouth of Rodeo Gulch and 2.54 miles east at the mouth of Aptos Creek. Santa Cruz tarplant (*Holocarpha macradenia*) Critical Habitat is located 1.8 miles and 2.26 miles to the west, 1.3 miles, 1.87 miles, and 1.95 miles to the north, and 2.13 miles to the northeast of the Study Area.

Special-Status Plant Species

A CNDDDB and IPaC query resulted in 55 special-status plant species that occur within the quad or adjacent quad to the Study Area (Appendix A). Of these species, all were determined to have to a low or no potential to occur. These special-status plant species are extirpated, require specific habitats (e.g. woodlands, coastal prairie, grassland, etc.), or soils (e.g. heavy clay, serpentine, etc.) that do not occur within the Project Area and thus these species would have low or no potential to occur.

One CNDDDB plant occurrence, Santa Cruz tarplant (*Holocarpha macradenia*) overlaps the Study Area. However, this population is extirpated and Santa Cruz tarplant is determined to have a low potential to occur within the Project Area due to no suitable coastal prairie habitat present. This species and its potential are further described below. Four other plant species are additionally further described below due to marginal suitable habitat within the Project Area. However, these species were determined to have a low potential to occur due to the extremely limited, isolated, and disturbed habitat that is within the Project Area.

No special-status plant species were observed within the Study Area during Sunset's site visit. None of these species were observed during botanical surveys conducted by ECI on April 27,

May 14, June 13, 2024 (ECI 2024). However, protocol-level surveys for special-status plants were not conducted. Species that are identifiable year-round (e.g., manzanitas) were determined to be absent if they were not observed during the survey.

Special-Status Plants with CNDDDB Occurrence Overlapping Study Area

***Santa Cruz tarplant (Holocarpha macradenia)*, Federally Threatened, State Endangered, Rank 1B.1.** The Santa Cruz tarplant is a rare annual herb in the sunflower family (*Asteraceae*) that is endemic to coastal prairies and terraces within California (Baldwin 2012). The species is listed as Federally Threatened under the ESA and State Endangered under the CESA. Additionally, the species is assigned as Rank 1B.1 by the CNPS, indicating that it is seriously rare, threatened, or endangered in California.

A CNDDDB occurrence for Santa Cruz tarplant overlaps the Project Area. The occurrence, observed in 1933, was mapped to a one-mile accuracy and was observed in fields adjacent to the ocean, between Soquel Point and Capitola. As of 1986, no suitable habitat for this occurrence exists due to development, and the occurrence is deemed extirpated. There are several extant occurrences within 3 miles of the Project Area. However, due to the lack of suitable coastal prairie habitat within the Project Area, Santa Cruz tarplant has no potential to occur.

Special-Status Plants with Additional Consideration

***Bent-flowered fiddleneck (Amsickia lunaris)*, Rank 1B.2.** The bent-flowered fiddleneck is an annual herb in the borage family (*Boraginaceae*) that is endemic to the coastal and inland regions of Central California. It does not have formal listing under either the ESA or CESA, but is ranked 1B.2 by the CNPS.

This species is primarily found in coastal bluff scrub, cismontane woodlands, and valley and foothill grasslands, often preferring shaded or sheltered slopes, openings in oak woodlands, steep grassy banks (CNPS 2026). Within Santa Cruz County, they are primarily found in grassy patches that contain rich soils (Neubauer 2013). There is one CNDDDB occurrence for bent-flowered fiddleneck, located 6.84 miles north in Scotts Valley (CDFW 2026b). The occurrence is poorly documented and last updated in 1980. Because bent-flowered fiddleneck is more prevalent in open, grassy areas with rich soils, it has a low potential of occurring within the coastal bluff scrub within the Project Area. Additionally, botanical surveys conducted by ECI in 2024 yielded no observations of this species (ECI 2024).

***Blasdale's bent grass (Agrostis blasdalei)*, Rank 1B.2.** Blasdale's bent grass is a tufted perennial grass endemic to the immediate coastline of Central and Northern California. It does not have formal listing under either the ESA or CESA, but is ranked 1B.2 by the CNPS.

There is one CNDDDB occurrence for Blasdale's bent-grass, located 10.9 miles west, within Wilder Ranch State Park (CDFW 2026b). The occurrence, mapped in 1993, is presumed extant and found on the bluffs overlooking the beach. While the Project Area has suitable coastal bluff habitat, it is extremely limited, disturbed, and threatened by invasive pampas grass. Therefore, there is a

low potential for Blasdale's bent grass to occur within the Project Area. Additionally, botanical surveys conducted by ECI in 2024 yielded no observations of this species (ECI 2024).

Perennial goldfields (*Lasthenia californica* ssp. *macrantha*), Rank 1B.2. Perennial goldfields is a perennial herb in the sunflower family (*Asteraceae*) that is restricted to the immediate coastal zone of California. It does not have formal listing under either the ESA or CESA, but is ranked 1B.2 by the CNPS.

There is an CNDDDB occurrence for perennial goldfields, located 1.87 miles east, along the coastal terrace rim in Sea Cliff State Beach (CDFW 2026b). The exact location within the beach is unknown, and the only source of the occurrence is from 1955. There is marginal coastal bluff habitat present in the Project Area, but there are no confirmed occurrences within Santa Cruz County as of 2013 (Neubauer 2013). Additionally, botanical surveys conducted by ECI in 2024 yielded no observations of this species (ECI 2024). Therefore, there is a low potential for perennial goldfields to occur within the Project Area.

Robbins' broomrape (*Aphyllon robbinsii*), Rank 1B.1. Robbins' broomrape is an annual herb in the broomrape family (*Orobanchaceae*) that is restricted to the immediate coastal scrub of Central California. It does not have formal listing under either the ESA or CESA, but is ranked 1B.1 by the CNPS.

There is one CNDDDB occurrence for Robbins' broomrape, located 10.9 miles west, near Coast Dairies State Beach (CDFW 2026b). The occurrence was originally from an 1881 collection, but around 15-20 plants were observed in 2015, along cypress trees. While coastal bluff habitat is present within the Project Area, it is highly fragmented, disturbed, and isolated. Therefore, there is no potential for Robbins' broomrape to occur within the Project Area.

Special-Status Wildlife Species

A CNDDDB and IPaC query resulted in 63 special-status wildlife species that occur within the quad or adjacent quad to the Project Area. All of the 63 special-species recorded in CNDDDB documented in the vicinity have no or low potential to occur within the Project Area due to lack of suitable habitat, previous and repeated site disturbance, habitat fragmentation, outside of the known range, or possible extirpation. See Appendix A for the full table of species and their potential to occur.

Given their documented presence in the vicinity of the Project Area, both fish and marine mammals are discussed further in this section. These species may reside in Monterey Bay and the subtidal habitats adjacent to the Project Area. However, they have a low potential to occur within the Project Area due to tidal action and natural elevated turbidity levels.

Central California coast coho salmon (*Oncorhynchus kisutch*), Federally Endangered, State Endangered. The Central California coast (CCc) Coho salmon Evolutionary Significant Unit (ESU) includes all naturally-spawned coho salmon originating from San Francisco Bay tributaries, rivers south of Punta Gorda, to and including Aptos Creek (NOAA 2026).

The nearby Soquel Creek contains a known population of CCc coho salmon. While suitable spawning and rearing habitat for CCc coho salmon does not exist within the Project Area, there

are several spawning runs for these species within Santa Cruz County, including Soquel Creek and San Lorenzo River. Additionally, this species uses Monterey Bay for foraging. Therefore, adults are considered present within the subtidal portions of the Study Area, but are not considered to be present within the intertidal portions of the Project Area due to the proximity of the shoreline, high turbidity, and extreme tidal fluctuations.

Central California coast steelhead (*Oncorhynchus mykiss*), Federally Threatened. The central California Coast ESU includes all naturally spawned populations of steelhead in California streams from the Russian River to Aptos Creek, and the drainages of San Francisco and San Pablo Bays eastward to the Napa River, excluding the Sacramento-San Joaquin River Basin (NOAA 2026b). The south-central California Coast ESU includes all naturally spawning populations from Pajaro River to the southern edge of San Luis Obispo County.

While suitable spawning and rearing habitat for steelhead does not exist within the Project Area, there are several spawning runs for this species within Monterey Bay, including Aptos, Soquel, Anna Gulch, and Wilder creeks and the San Lorenzo River. Additionally, this species may use Monterey Bay for foraging. Therefore, adults are considered present within the subtidal portions of the Study Area, but are not considered to be present within the intertidal portions of the Project Area due to the proximity of the shoreline, high turbidity, and extreme tidal fluctuations.

Eulachon (*Thaleichthys pacificus*), Federally Threatened. Eulachon is a small, slender anadromous smelt native to the North Pacific coast, ranging from northern California to the Bering Sea. A CNDDDB occurrence overlaps the Project Area. The occurrence, documented in 1911, was mapped to the mouth of Soquel Creek, which is 0.1 miles north of the Project Area. Although the occurrence is presumed extant, the current known range for the species is from the Bering Sea north to Humboldt Bay, California. However, one eulachon was caught in the Upper Sacramento River in 2006 (Duran 2008), indicating that the species may not be entirely extirpated south of Humboldt Bay. However, abundance outside of its current known range is considered very low. Therefore, eulachon has no potential to occur within the Project Area.

Tidewater goby (*Eucyclogobius newberryi*), Federally Endangered. The tidewater goby is a small, blunt-headed fish endemic to the coastal lagoons and estuaries of California, from Del Norte County in northern California to San Diego County in southern California.

Soquel Creek, located 0.1 miles north of the Project Area, contains an intermittent population of tidewater goby. The population was first discovered in the late 1980s, and were monitored up until 2015, when a major drought occurred which may have extirpated the population or made them present at undetectable levels. Several other nearby freshwater mouths and lagoons, including Schwan lagoon, Rodea Gulch Creek, and Aptos Creek are believed to contain populations of tidewater goby. Within the Project Area, waters are not considered brackish and are considered seawater, which tidewater goby can tolerate. However, tidewater goby rarely resides in open waters such as those within the Project Area, despite its close proximity to a known population. Therefore, there is no potential for tidewater goby to occur within the Project Area.

Marine Mammals

Monterey Bay is documented habitat for marine mammals protected under the Marine Mammal Protection Act, including pinnipeds (e.g., California sea lion and elephant seal), and cetaceans (e.g., grey and humpback whales, Pacific harbor porpoise, bottlenose dolphin) and mustelids (e.g. southern sea otter). Each of these marine mammals utilize Monterey Bay in different areas and in different manners.

For larger cetaceans, such as elephant seals or whales, there is a no potential for occurrence within the Project Area. Water depths within the Project Area are too shallow for larger marine mammals to forage. However, other smaller marine mammals such as dolphins, harbor seal, sea lions, have a low potential to occur within the Project Area. These smaller marine mammals may utilize the intertidal and subtidal areas for foraging. During low tides, the exposed sand beach within the Project Area provides a suitable haul site for pinnipeds. However, the stretch of sand beach within the Project Area is unsuitable for pinniped breeding as the sand beach is routinely inundated due to tidal action. The southern sea otter is regularly sighted in Monterey Bay. Southern sea otters utilize kelp beds for rest, breeding, foraging, and grooming, in close proximity to the Project Area. However, no suitable kelp habitat exists within the Project Area. Therefore, there is a moderate potential for marine mammals to be present offshore and within the sand beach and subtidal areas of the Project Area.

Wildlife Corridors

The Project Area is not considered to be located within a significant wildlife corridor. Based on a review of the California Essential Habitat Connectivity database, the Project Area is not situated within any designated essential connectivity areas, core reserves, corridors, landscape blocks, or general wildlife corridors identified by the BIOs system. The upland habitats present within the Project Area are small and isolated and located on a near vertical cliff face. The flat portions of the Project Area mostly consist of developed land, and is bordered from the east, north, and west by roads and urban development, with no continuous green belt. The narrow strip of vegetation does not provide high-quality habitat for migratory birds in comparison to more natural areas to the north and south. The presence of urban development and lack of connectivity to other natural communities or open spaces prevent the Project Area from functioning as a wildlife corridor.

Discussion

a) Potential impacts to Special-Status Species

Special-Status Plants

While no focused rare-plant surveys were conducted, no special-status plant species were observed in the Project Area, and no special-status plants have been determined to have a moderate or higher chance of occurring. Thus, **no impacts** would occur to special-status plants and no mitigation is required.

Special-Status Wildlife

Nesting Birds. Although no special-status bird species were determined to have potential to use the Project Area for nesting, common bird species have the potential to nest within the Project Area. Nesting birds are protected under both the MBTA and CDGC, and impacts to native nesting birds would be considered a significant impact under CEQA. **Mitigation Measure BIO-5**, below, would reduce this impact to a **less-than-significant** level.

Marine Mammals. The Project Area does not contain breeding or feeding habitat for marine mammals. Whales and dolphins are generally limited to offshore waters adjacent to the Project Area and are unlikely to be affected by the proposed Project. Pinnipeds have potential to utilize the surf zone or haul out areas within the Project Area and may be temporarily impacted by construction noise. However, all construction noise will be above water and noise levels are anticipated to be below harassment thresholds for marine mammals if they are not within a 250-foot distance of the work area. Additionally, the shoreline north and south of the Project Area provide ample dispersal habitat.

The placement of rip rap within portions of the sand beach would slightly reduce potential haul out habitat for pinnipeds. However, the existing haul out sites within the Project Area are not suitable for breeding as the beach is routinely inundated during high tides and human disturbance is high. This permanent impact to haul out habitat is not considered to be significant, as the adjacent shoreline provides similar and ample potential haul out sites for pinnipeds. Therefore, impacts to marine mammals are considered **less than significant**.

Special-Status Fish

Special-status fish species are not expected to occur within the Project Area, as work within the subtidal habitats would only occur during low tide and outside of the active waters. The Project Area does not contain spawning or rearing habitat for these species. However, similar to marine mammals, noise and minor turbidity may temporarily deter fish species, including potential special-status fish species that use the surrounding subtidal areas surrounding the Project Area during construction. However, these fish species would be able to disperse safely into other areas within Monterey Bay if present during construction. Because natural turbidity surrounding the Project Area is already elevated, minor construction-related increases would not significantly impact overall water clarity. Therefore, potential impacts to fish species would be **less than significant**.

Green Sturgeon and Leatherback Sea Turtle Critical Habitat

The portions of the Project Area below the high-tide line are located within Critical Habitat for green sturgeon and leatherback sea turtle. Effects to critical habitat are expected to include temporary, short-term effects on water quality and minor noise from construction. Permanent impacts would include minor benthic habitat conversion (0.400) from a sand beach to a rocky intertidal and is not considered significant. Water quality impacts and

noise are anticipated to be discountable and insignificant, as described in the fish and marine mammals impacts sections. No aquatic vegetation is present within the immediate Project Area. Once construction is complete, no net loss of intertidal habitat would occur. Therefore, potential impacts to green sturgeon and leatherback sea turtle Critical Habitat would be **less than significant**.

b) Potential impacts to Sensitive Biological Communities

The Project would affect both non-sensitive biological communities and sensitive biological communities. The total Project impacts would encompass 3.128 acres, comprised of 2.253 acres of temporary impacts and 0.875 acres of permanent impact. See Table **BIO-2** below for a summary of Project impacts. Temporary impacts within non-sensitive biological communities include the repaving of the existing developed surfaces, staging within ruderal habitat, and for construction access down the cliff face. Permanent impacts within non-sensitive biological communities include the shotcrete facing over ruderal and bare/unvegetated biological communities. Impacts to sensitive biological communities are assessed and discussed below.

Table BIO-2. Temporary and Permanent Project Impacts

	Temporary Impacts (acres)	Permanent Impacts (acres)
Bare/Unvegetated	0.127	0.053
Coastal Bluff Scrub	0.000	0.010
Developed	1.120	0.000
Intertidal Rip rap	0.547	0.000
Intertidal Rocky Shore	0.000	0.000
Intertidal Sandy Beach	0.000	0.400
Ruderal	0.335	0.403
Seep	0.000	0.008
Supralittoral Rip rap	0.125	0.000
Total	2.253	0.875

Coastal Bluff Scrub

To be conservative, this report considers the loss of coastal bluff scrub as potentially significant, and mitigation is provided or altered by the regulatory agencies. Permanent impacts to coastal bluff scrub total 0.010 acres. Permanent impacts within the coastal bluff scrub include habitat conversion to shotcrete, which removes all vegetation and potential wildlife utilizing the habitat.

In Sunset's professional judgment, this habitat is not considered an ESHA because it lacks the robust ecological functionality found in larger, contiguous scrub environments. Ultimately, however, the CCC has final determination regarding ESHA status. If the regulatory agencies determine that the coastal bluff scrub is sensitive/ESHA, this

potentially significant impact would be reduced to a less-than-significant level by implementation of **Mitigation Measures BIO-1 and 2**.

Seep

To be conservative, this report considers the loss of seep habitat as potentially significant, and mitigation is provided or altered by the regulatory agencies. Total seep habitat permanently impacted by Project activities are 0.008 acres. Project activities within the seep habitat include habitat conversion to shotcrete. Conversion represents the complete removal of seep vegetation.

In Sunset's professional judgment, the seep habitat is not considered an ESHA because it is very small in areas on a cliff face and lacks the robust ecological functionality found in larger, contiguous environments. Additionally, seep hydrology appears to be artificial from a leaking outfall. Ultimately, however, the CCC has final determination regarding ESHA status. If the regulatory agencies determine that the seep is sensitive/ESHA, the permanent impacts would be offset either through on-site mitigation, off-site mitigation, through a mitigation bank, or in-lieu fee. This **potentially significant** impact would be reduced to a less-than-significant level by implementation of **Mitigation Measures BIO-3 and 4**.

Intertidal Rip Rap

No permanent impacts are anticipated within the intertidal rip rap. Total temporary impacts within the upland rip rap areas total 0.547 acres. Temporary impacts include the removal of the existing rip rap to allow the base of the cliff to have shotcrete installed, and the replacement of rip rap after. Shotcrete will only be sprayed above the HTL, and none is proposed within the intertidal rip rap area. Once the shotcrete is sprayed, the existing rip rap will be put back in place. Additional rip rap would be placed to further reinforce the shoreline. Therefore, impacts to the intertidal rip rap would be temporary.

The temporary removal of rip rap would temporarily remove habitat for common wildlife species residing in the area, including crustaceans and shorebirds, and may result in the localized loss of sessile and mobile invertebrates and rocky habitat. The removal and addition of rip rap is unlikely to adversely affect common invertebrate populations, as the Project Area accounts for a negligible fraction of the available habitat in the region. Additionally, once construction is complete, no permanent impacts to this biological community is anticipated. Therefore, this impact would be **less than significant** and no mitigation is required.

Intertidal Sand Beach Impacts (Less than Significant)

Total permanent impacts to the intertidal sand beach are 0.400 acres. The 0.400 acres of intertidal sand beach will be converted to intertidal rip rap (hard substrate rocky intertidal).

Within the Project footprint, the sand beach community would be lost; however, this loss would not be considered significant due to the abundance of unvegetated sand beach habitat immediately north and south of the Project Area. The placement of rip rap may result in a long-term increase in aquatic productivity and diversity compared to the sand bottom habitat. Therefore, the impacts to the intertidal sand beach are considered **less than significant** and no mitigation is proposed.

c) Potential Impacts to Wetlands and Wetland Habitats

Seep Wetland would be considered as wetlands by the CCC. Other agencies, such as USACE, RWQCB, and CDFW may also consider these wetlands, and so permits might be required if impacts occur to these wetlands. Permanent removal of this habitat is considered **potentially significant**. As described above, this impact would be reduced to a **less-than-significant** level by implementation of **Mitigation Measures BIO-3 and BIO-4**, below.

d) Potential Impacts to Wildlife and Migration Corridors

The Project Area is not a migratory wildlife corridor for native wildlife species, migratory aquatic species, or migratory birds. The proposed Project will not act as a wildlife barrier nor impede the use of the area as a wildlife corridor. Therefore, impacts to the movement of wildlife through the Project Area is considered to be **less than significant**.

e) Conflict with Local Policies or Ordinances Protecting Biological Resources

The proposed project would be required to be consistent with biological resources protection measures included in the City of Capitola's Local Coastal Program Land Use Plan⁵. These include:

- CCA Section 30230: Marine resources shall be maintained, enhanced, and where feasible restored. Special protection shall be given to areas and species of special biological or economic significance.

Use of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

- CCA Section 30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with

⁵ City of Capitola, Local Coastal Program Land Use Plan. Certified by the California Coastal Commission June and December, 1981, Revised and updated to include amendments, October 2001 and January 2005.

surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

- CCA Section 30232. Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.
- CCA Section 30235. Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes 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. Existing marine structures causing water stagnation contributing to pollution problems and fishkills should be phased out or upgraded where feasible.
- LCP, P. 68: Marine and Stream Quality Water (sic). Recommends installing energy dissipators and grease/sediment traps in parking lot drains.

As described above, the seep and coastal bluff scrub habitats, both considered as ESHAs, would be permanently impacted by the Project. However, the mitigation measures identified in this section would ensure conformance with these policies and the **potentially significant impact** would be reduced to **less than significant**.

No tree removal is proposed by the project, therefore conformance with the City's tree Protection Ordinance is not applicable and **no impact** would occur with respect to trees.

f) Conflict with any Habitat Protection Plan

The proposed project is located adjacent to Monterey Bay, which was designated as a National Marine Sanctuary in 1992 by the National Oceanic and Atmospheric Administration (NOAA Fisheries). The Monterey Bay National Marine Sanctuary (MBNMS) is a federally protected environment in which activities are regulated pursuant to Title 15 of the Code of Federal Regulations at Part 922. A permit is required for any activity within the sanctuary that is otherwise prohibited.

The Monterey Bay is also designated as Essential Fish Habitat (EFH) for fish species managed under the Pacific Coast Salmon Fishery Management Plan and the Pacific Groundfish Fishery Management Plan. EFH was defined by the U.S. Congress in the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act, or Magnuson-Stevens Act, as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." NOAA Fisheries administers the Act and coordinates with other federal agencies to conserve and enhance EFH.

Significant increases in siltation or spilled fuel entering the waters of the Monterey Bay National Marine Sanctuary (MBNMS) are unlikely, but could affect habitat nearby. Construction noise could also negatively impact fish and marine mammals occurring within the immediate vicinity. Temporary and permanent effects on the Monterey Bay Sanctuary are expected to be minimal or non-existent. **No impact** would occur.

Mitigation Measures

Mitigation Measure BIO-1 –Coastal Bluff Scrub Restoration

To compensate for the removal of coastal bluff scrub vegetation, the City shall develop and implement a coastal bluff scrub restoration plan that provides a 3:1 restoration to impact ratio for temporary and permanent impacts to this habitat. The ratio will provide suitable mitigation by either restoring degraded coastal scrub habitat with higher quality coastal scrub that supports native coastal scrub species or by creating new coastal scrub habitat.

The plan shall specify restoration and management of a minimum of 0.030 acres of coastal bluff scrub. The plan shall identify any existing coastal bluff scrub to be enhanced as well as new coastal bluff scrub to be created. The plan shall identify the specific areas to be revegetated, a planting plan, soil requirements, planting methodology, and irrigation requirements. The plan shall identify the location and techniques for the removal and control of invasive, non-native plant species. The plan shall identify maintenance and monitoring actions, and indicate a minimum 5-year monitoring and reporting program, or as so indicate by the Coastal Development Permit, or regulatory permitting agencies. If restoration is not preferred, BIO **Mitigation Measure BIO-2** shall be implemented.

Mitigation Measure BIO-2 – Mitigation Bank or In-lieu Fee Program for Coastal Bluff Scrub

If on-site or off-site coastal bluff scrub mitigation is not feasible, the use of a mitigation bank and in-lieu fee program, or other compensatory mitigation as deemed appropriate by the regulatory agencies shall be utilized to compensate for permanent impacts to coastal bluff scrub through purchase of credits. The Project proponent shall work with the regulatory agencies to determine suitable mitigation banks or in-lieu fee programs, if deemed as an impact by the regulatory agencies.

Mitigation Measure BIO-3 – Seep Wetland Restoration

To compensate for the removal of the seep wetland vegetation, the Project Applicant shall develop and implement a seep restoration plan that provides a 2:1 restoration to impact ratio for temporary and permanent impacts to this habitat. The ratio shall provide suitable mitigation by either restoring seep wetland habitat with higher quality habitat that supports native wetland vegetation or by creating new wetland habitat. The plan shall specify restoration and management of a minimum of 0.016 acres of wetland either on site or off-site.

The plan shall identify any existing wetland to be enhanced as well as wetland habitat to be created. The plan shall identify the specific areas to be revegetated, a planting plan, soil requirements, planting methodology, and irrigation requirements. The plan shall identify the location and techniques for the removal and control of invasive, non-native plant species. The plan shall identify maintenance and monitoring actions, and indicate a minimum 5-year monitoring and reporting program, or as so indicated by the Coastal Development Permit, or regulatory permitting agencies. If restoration is not preferred or feasible, Mitigation Measure BIO-4 shall be implemented.

Mitigation Measure BIO-4 – Mitigation Bank or In-lieu Fee Program for Seep Wetland Habitat

If on-site or off-site wetland mitigation is not feasible, a mitigation bank and in-lieu fee program shall be utilized to compensate for permanent impacts to seep wetlands through purchase of credits. The Project proponent shall work with the regulatory agencies to determine suitable mitigation banks or in-lieu fee programs, if deemed as an impact by the regulatory agencies.

Mitigation Measure BIO-5 – Nesting Birds Avoidance

If construction is scheduled during the nesting period (January 15 through August 14), a qualified wildlife biologist shall conduct a pre-construction bird survey to confirm the presence or absence of active nests in the vicinity of proposed construction activities. The survey area shall include the complete Project Area and adjacent areas up to 300 feet for raptors.

If active nests are encountered, the biologist will prepare and implement species-specific measures to prevent abandonment of the active nest(s). At a minimum, construction in the vicinity of a nest's tree or burrow shall be deferred until the young birds have fledged, and a construction-disturbance within a distance determined by the biologist shall be provided based on the species, visual and auditory buffers, and presence of non-project activity disturbance. Grading or other project-related disturbance in the vicinity of the nest shall not be permitted until the biologist confirms that the young birds have fledged.

If project construction is halted for more than 14 days during the nesting season, another survey shall be conducted to assure nests are not built within that time period. Implementation of the above proposed measures will avoid impacts to special-status and non-special status nesting birds should they occur on-site.

V. Cultural Resources

Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?			X	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?			X	
c) Disturb any human remains, including those interred outside of dedicated cemeteries?		X		

Background

Albion prepared an inventory of cultural resources and an analysis of potential project impacts, which forms the basis of this section (Albion 2024)⁶. Albion's report included Albion's cultural resource inventory comprised seven tasks: 1) coordination with Project planners to confirm the preliminary Project Area (PA), Area of Potential Effect (APE), and Area of Direct Impact (ADI); 2) archival research and a review of records from the Northwest Information Center of the California Historical Resources Information System at Sonoma State University (NWIC); 3) a review of archaeological site records from Albion's database; 4) a Sacred Lands File (SLF) search with the Native American Heritage Commission (NAHC); 5) outreach to Native American groups identified by the NAHC; 6) a pedestrian survey of the preliminary Project ADI; and 7) a report of findings and recommendations for the lead agencies. Albion designed the investigation to address treatment of cultural resources under Section 106 of the NHPA and current CEQA guidelines.

At the time of preparation of the Cultural Resources Assessment, the City was considering alternatives that would re-route Cliff Drive traffic through nearby residential neighborhoods. This concept has since been abandoned, however the API still includes these neighborhoods. Within the preliminary PA/APE, a preliminary Area of Direct Impact (ADI) is identified for areas likely to involve ground disturbance. This includes a segment of Cliff Drive where planned work involves stabilizing the eroding cliff and upgrading parking and the existing roadway. The preliminary ADI is approximately 2 acres in area and includes a segment of Cliff Drive south of Capitola Village between Wharf Road and 4th Avenue. It includes Cliff Drive, the walkway and parking areas east of the road, and the bordering stabilized cliff overlooking the Pacific Ocean. These are the areas where the currently proposed project would be located.

A search of records at the NWIC indicated that eight archaeological studies have been conducted

⁶ Albion, Phase 1 Cultural Resource Inventory for the Capitola Cliff Drive Resiliency Project, Santa Cruz County, California, Prepared for Northgate Environmental Management, Inc. July 2024.

within the preliminary PA/APE while 53 studies have been conducted within a ½-mile radius of it. Based on Albion's database and the NWIC record search, 26 previously recorded cultural resources are located within a ½-mile of the preliminary PA/APE, including eight precolonial sites (three with human remains), 17 historic-era cultural resources, and one mixed precolonial and historic-era archaeological site. Within the preliminary PA/APE, seven previously identified cultural resources were identified, which includes six historic-era resources and one precolonial site. Of these, two resources are partially located within the preliminary ADI boundaries - Capitola Beach Cultural Landscape District (P-44-001149) and CA-SCR-151 (P-44-000154) a precolonial habitation site.

Given the proximity to fresh water sources (adjacent Soquel Creek) and previously recorded precolonial archaeological sites in and surrounding the preliminary PA/APE/ADI, Albion concluded that the area is highly sensitive for precolonial habitation sites. Background research indicates that the preliminary Project PA/APE is not sensitive for buried surfaces that might harbor precolonial archaeological resources, as the area is mapped as either Pliocene age marine deposits or Pleistocene-age alluvial deposits. Albion concluded that there is a very high potential that the Project could impact surface-level precolonial archaeological resources.

Albion's background research also revealed that the preliminary PA/APE is moderately sensitive for historic-era resources including built environment and archaeological resources. By 1931, the APE was developed into a residential neighborhood. However, the project does not include any work in these areas.

No cultural resources were observed during Albion's visual inspection of preliminary ADI; however, ground visibility was poor. Most of the area is obscured by the built environment (paved roads, walkways, and landscaping).

Results of the SLF were positive and Albion conducted outreach to eight Native American representatives identified by the NAHC. Outreach efforts indicate that the preliminary APE may be sensitive for Tribal Cultural Resources/Traditional Cultural Properties. Under the authority of California Assembly Bill 52, the City of Capitola and under the authority of Section 106 of the NHPA, the FHWA is responsible for collecting and incorporating Tribal information into the environmental review process. The tribal Cultural Resources consultation is described in Section XVIII, Tribal Cultural Resources, herein.

Discussion

- a) As described above, while there are historic structures in the API, there are no such structures in the ADI, and no work is proposed outside of the ADI, within the APE. Therefore, there is a low probability that future construction would impact possible historic-era features. Capitola Beach Cultural Landscape District (P-44-001149) is partially located within the APE. Within the boundary of the Landscape District, the Project proposes to upgrade parking, the existing road, and walkways. This would involve the

removal and replacement of existing pavement. These actions would not impact the Contributing Elements of the District. This impact would be **less than significant**.

- b) As discussed above, one archaeological resource is partially located within the preliminary ADI boundaries - CA-SCR-151 (P-44-000154), a precolonial habitation site. There is a high potential for materials associated with this site to occur in the ADI. Therefore, the project archaeologists recommended an extended Phase 1 (XP1) survey, and has submitted a proposal for that survey to Caltrans for their consideration. Potential impacts to any archaeological resources encountered during project construction would be reduced to a **less-than-significant** level with implementation of **Mitigation Measures CULT-1** (which includes the XP1 survey) and **CULT-2**, below.
- c) Although no human remains have been found in the ADI, the area is highly sensitive for prehistoric cultural resources and there is the potential for project grading to encounter human remains. This **potentially significant impact** would be reduced to a **less-than-significant** level with implementation of Mitigation Measures **CULT-1** and **CULT-2**, below.

Mitigation Measures

Mitigation Measure CULT-1: Archaeological Resources. The following measures shall be implemented to minimize project's potential impacts to archaeological resources:

- a) ***Complete Extended Phase 1 Survey:*** The project archaeologist has submitted a proposal to Caltrans to conduct an Extended Phase I study to 1) determine the presence/absence of a cultural resource within the Project ADI; 2) assess the depositional context and investigate the potential of the deposit's integrity; and 3) determine appropriate measures to either avoid the cultural resource or complete additional studies to formally evaluate the resource under CEQA and NHPA guidelines. This survey shall be completed prior to construction, and all recommendations resulting from the survey shall be incorporated into the AMDP, as specified in Item b, below.
- b) ***Archaeological Monitoring:*** Prior to the start of ground-disturbing activities, a qualified archaeologist, who meets the Secretary of the Interior's Professional Qualification Standards for archaeology (36 CFR Part 61; 48 FR 44738-4), shall be retained to provide monitoring services for the project.

Should ground-disturbing work need to occur within the ADI, the archaeological consultant, project sponsor, and local Native American representative shall meet to develop the scope of the Archaeological Monitoring and Discovery Plan (AMDP) prior to any ground-disturbing activities.

The AMDP shall be drafted prior to the start of ground-disturbing work and submitted to all involved parties (lead agency, Native American Tribe, etc.) well in advance of ground-disturbing activities. The AMDP shall include, at a minimum, guidelines for archaeological monitoring (responsibilities, monitoring frequencies, etc.), procedures for the discovery of archaeological resources and human remains, reporting and curation requirements, and guidance from the Tribe on monitoring and discovery procedures.

The archaeological monitor(s) shall be familiar with the types of resources that could be encountered and shall work under the direct supervision of a qualified archaeologist. The archaeological monitor(s) shall develop daily logs that document and describe the nature and extent of work activities, the soils and deposits that are exposed, and specific details regarding the discovery of any archaeological materials, features, and/or human remains. The archaeological monitor(s) shall have the authority to halt ground-disturbing activities in the event of a discovery until it has been assessed for significance and treatment implemented, if necessary, based on the recommendations of the qualified archaeologist in coordination with the lead agency, and the Native American representatives.

- c) ***Native American Monitoring:*** Prior to the start of any ground-disturbing activity, a qualified Native American monitor shall be retained to provide monitoring services as outlined in the Archaeological Monitoring and Discovery Plan (AMDP) described above. The Native American monitor shall be from a Tribe that is culturally and geographically affiliated with the project area.
- d) **Inadvertent Discoveries** If no intact archaeological deposits are encountered, or materials are found in disturbed contexts, no further archaeological study is required.

In the event that unanticipated cultural resources are exposed during disturbance activities, work within 15 meters (50 feet) of the find must stop and a Secretary of the Interior-qualified archaeologist must be notified immediately. Work may not resume until a qualified archaeologist can evaluate the significance of the find. Disturbance activities may continue in other areas. If the discovery proves significant, additional work such as archaeological testing, data recovery, or consultation with stakeholders may be warranted. If intact deposits are encountered, a Phase II Archaeological Evaluation shall be conducted to evaluate significance under Section 106.

If the site is determined eligible under Section 106 or CEQA, agencies involved in the Project may request that a Cultural Resources Treatment Plan (CRTP) be developed to mitigate adverse effects (as per Section 106) and

reduce impacts to less than significant (as per CEQA) (Phase III Mitigation). The CRTP is typically developed and implemented in consultation with the local Native American community to ensure their input. At a minimum, the CRTP should include: a detailed description of the Project and its subsurface impacts; a description of the environmental setting and precolonial/historic-era background of the Project Area; research questions and goals to be addressed by the investigation; a detailed field strategy used to record, avoid, or recover eligible resources; analytical methods; reporting requirements; curation plans; and appendices including site records, correspondence, artifact catalogs, etc."

The CRTP components closely mirror those found in the Archaeological Monitoring and Discovery Plan (AMDP) described above. However, the CRTP shall be implemented well in advance of construction monitoring. Preconstruction treatment of the site can stand as its own mitigation measure or, alternatively, be incorporated into the AMDP

The project shall implement any such treatment plan.

Mitigation Measure CULT-2: Human Remains. The discovery of human remains is always a possibility during ground disturbances. State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Santa Cruz County coroner has determined the origin and disposition pursuant to PRC Section 5097.98. The following procedure shall be implemented in the case of any such discovery:

- If potential human remains are discovered, the archaeologist shall halt all activities in the vicinity and immediately notify the appropriate Caltrans Personnel.
- Upon approval from Caltrans, the Project Archaeologist shall notify the Santa Cruz County Coroner.
- If potential human remains are identified, all work shall stop within 60 feet of these materials. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the Santa Cruz County Coroner is contacted to determine that no investigation of the cause of death is required, and that the coroner determines the remains to be Native American. The 60-foot boundary will remain in place until a Caltrans PQS approves work to resume.
- If the remains are Native American in origin, then the Coroner shall contact the Native American Heritage Commission within 24 hours.
- The Native American Heritage Commission, upon notification by the Coroner, shall notify the Most Likely Descendants (MLD) regarding the discovery of Native American human remains.

- The MLD, within 48 hours of notification by the Commission, shall inspect the site of the discovery of Native American human remains and recommend to Caltrans means of reburial, with appropriate dignity, the human remains and any associated grave goods.

VI. Energy

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X

Discussion

- a) The proposed project would require short-term energy consumption of petroleum fuels (primarily gasoline and diesel fuel) by construction workers traveling to and from the project site, transportation of construction materials, and equipment for on-site construction activities. Gasoline and diesel fuel would be the primary sources of energy for these activities. This increase in gasoline and diesel fuel consumption would be temporary over the 6-months of Project construction and would cease once construction is completed. The Project would not result in a wasteful, inefficient, or unnecessary consumption of energy. Therefore, this impact would be **less than significant**.
- b) There are no state or local plans for renewable energy or energy efficiency that are applicable to the Project. Therefore, **no impact** would occur.

VII. Geology and Soils

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
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?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			X	
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 wastewater?				X
f) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?			X	

Background

Soil and Geologic Conditions

According to regional geologic maps covering the site, the geology exposed along the bluff consists of Pleistocene terrace deposits (Qcl) overlying bedrock of the Pliocene and upper Miocene Purisima Formations (Tp). Based on the previous geotechnical study performed in 1995 on the stability terrace deposit, the terrace deposits generally comprise semi-consolidated sand with clay and rounded gravel and small cobbles. The terrace deposits thin and pinch out towards the northwest.

The bedrock exposed in the coastal bluff at the site comprises the Purisima Formations. The Purisima Formation generally comprises very thick bedded yellowish-gray tuffaceous and diatomaceous siltstone with thick interbeds of bluish-gray, semi-friable fine-grained marine sandstone.

An ENGEO geologist performed site visits on January 16, 2024, and February 7, 2024, to directly observe the current bluff conditions and map the exposed geology along the base of the bluff face. Accessible portions of the bluff face were photographed and mapped during visits. The geologist measured attitudes of representative joints, bedding planes, and faults observed along the base of the bluff face. ENGEO examined joint surfaces to estimate the joint roughness and surface characteristics. Based on mapping of the geology exposed in the bluff face, ENGEO subdivided the rock into four units:

- Unit 1 is exposed along the lower portion of the bluff face below the rip rap. Unit 1 generally comprises fine-grained sandstone that is dark yellowish brown, weak with some friable zones. It is thickly bedded with cross-bed laminae with some bivalve fossils. Unit 1 is susceptible to wave-cut notching as is evident from the existing sea cave along the base of the bluff,
- Unit 2 is exposed a little higher in the bluff face and overlies Unit 1. Unit 2 consists of sandy mudstone that is yellowish brown but weathers to grayish brown. It is weak, slightly weathered, massive with lenses of laminated fine-grained sandstone that are more susceptible to erosion than the surrounding mudstone. This unit contains intraclasts, preserved bivalve fossils, and bivalve and burrow ichnofossil casts. This unit is exposed in a wave-cut platform along portions of the bluff.
- Unit 3 is exposed midway up the bluff face and consists of sandstone with interbedded gray mudstone that weathers to yellowish brown. It is weak, moderately thick to thickly bedded with sandstone beds typically around 2 feet thick while the mudstone beds are typically ½ foot thick. The sandstone is heavily bioturbated, with closely spaced fractures. The near vertical (70-80°) fractures are dilated up to ½ inch with most between ¼ and ½ inch.

- Unit 4 is exposed along the upper portion of the bluff and generally consists of gray siltstone that weathers to yellowish brown. This unit appears to be weak and moderately weathered with very closely spaced fractures and some crushed zones. An approximately 6-inch-thick shelly marker bed forms the boundary between units 3 and 4.

During ENGEO's field mapping along the base of the bluff, they observed and measured over 50 discontinuities (bedding, joints, and faults) in the Purisima Formation. In general, bedding is almost horizontal with dips ranging from 2 to 5 degrees into and out of the bluff face. ENGEO measured roughly four joint sets exposed within the bluff face. The primary joint set can be seen dipping out of the bluff face and is the primary joint set responsible for the failures that have contributed to the progressive retreat of the bluff face.

Long-term erosion rates for the cliffs in the project area are on the order of 0.3 to 1.3 feet per year. Bluff erosion can be related to the occurrence of high tide levels coincident with wave action, El Niño events, precipitation, and seismic events. Bluff failures are therefore episodic and irregular, and short-term localized bluff retreat can therefore be significantly larger than the average long-term trend.

Based upon field measurements along the wall installed in 1997, the bluff is retreating at a rate of about 6 inches per year due to wave action. Sea caves will continue to form at the base of the bluff and above the rock slope protection due to wave action. This condition undermines the bluff and causes it to erode.

Seismic Conditions

The Project corridor is located in a seismically active area that would experience strong seismic ground shaking following an earthquake along any one of several nearby faults, including the Ben Lomond fault, Monterey Bay-Tularcitos fault, Zayante-Vergeles fault, San Andreas (Santa Cruz Mountains) fault, and Sargent fault located approximately 5 miles, 6.5 miles, 5.5 miles, 8.5 miles, and 10.5 miles, respectively, from the Project area (Pacific Crest Engineering 2021). However, known earthquake faults are not present directly within the Project corridor. Therefore, the rupture of a known earthquake fault, as delineated on the Alquist-Priolo Earthquake Fault Zoning Maps, would not be expected.

Discussion

- a)
 - i. As described in the Setting section above, there are no mapped active earthquake fault zones crossing the site. The site is not currently within a designated Earthquake Fault Zone as defined by the State. Therefore, there would be **no impact** related to the rupture of a known earthquake fault.
 - ii. As discussed above, the Monterey Bay Area will likely experience a large earthquake in the next 25-30 years. There would be potential for strong seismic ground shaking at the project site associated with such an event. However, bluff stabilization structures that would be built as part of the project would increase slope stability in earthquake events.

There would be no increased risk to people or structures as a result of the project. Therefore, project would have **no impact** related to ground shaking.

iii. Seismic ground shaking can induce ground failure and liquefaction of loosely consolidated soils. However, the roadway and cliffs are on consolidated bedrock that is not susceptible to substantial liquefaction hazards. Liquefaction hazards along the project alignment are mapped as low⁷. In addition, as the project does not include structures for human occupancy, the project is not subject to the requirements of the Seismic Hazards Mapping Act (1990).

The project would not cause an increased potential for ground failure over current conditions, would not include any structures that could be potentially damaged as a result of ground failure, and would not substantially increase visitation to the site. Therefore, project impacts related to ground failure or liquefaction would be **less than significant**.

iv. Slope instability (i.e. landslides and similar slope failures) generally occurs on relatively steep slopes and/or slopes underlain by weak materials. The purpose of the project is to improve slope stability compared with existing and projected future conditions. Therefore, project impacts related to slope instability would be **less than significant**.

- b) Construction of the proposed project could potentially result in soil erosion due to earthwork activities (excavation and grading). Because construction of the Project would disturb over 1 acre, it would be subject to the NPDES Construction General Permit (Order No. 2012-0006-DWQ) adopted by the State Water Resources Control Board. Compliance with the permit requires each qualifying development project to file a Notice of Intent with the State Water Resources Control Board. Permit conditions require development of a SWPPP, which must describe the site, the facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of construction sediment and erosion control measures, maintenance responsibilities, and non-stormwater management controls. Additionally, inspection of construction sites before and after storms is required to identify stormwater discharge from the construction activity and to identify and implement erosion controls, where necessary. Compliance with the NPDES-required SWPPP would reduce the risk of soil erosion.

In addition, Chapter 13.16, Stormwater Pollution Prevention and Protection, of the Capitola Municipal Code establishes regulations for controlling the introduction of pollutants into the stormwater system to ensure the City's compliance with provisions of the SWRCB's NPDES General Permit and WDRs. The City's regulations provide for the health, safety, and general welfare of the citizens of the City through the regulation of non-stormwater discharges to the storm drainage system as required by federal and state law.

⁷ <https://gis.santacruzcounty.us/mapgallery/Emergency%20Management/Hazard%20Mitigation/Liquefaction.pdf>

Chapter 15.28, Excavation and Grading, of the Capitola Municipal Code establishes requirements for obtaining a grading permit and implementation of erosion control measures to prevent accelerated erosion. Section 15.28.110(C), Design Standards For Cut and Fill Setbacks, addresses stream and riparian setbacks. Tops and toes of cut and/or filled slopes shall be set back far enough to prevent encroachment upon streams, floodplains, channels, or bodies of standing water and provide and maintain an undisturbed protective strip between the grading and the riparian corridor. This strip shall have sufficient filter capacity as determined by the grading official to prevent degradation of water quality. If it is determined that the filter capacity of the protective strip is insufficient, additional erosion control may be required by increasing the width of the protective strip or with structural measures and/or by seeding, planting, mulching of bare soil areas.

Compliance with the above State- and City-required measures would result in a **less-than-significant impact** on erosion during construction.

One of the primary goals of the project is to reduce bluff erosion. Implementation of the project would significantly reduce current rates of erosion of the bluff and deposition in the beach and ocean below. Therefore, operation of the proposed project would have **no adverse impact** on shoreline erosion and would ultimately result in a long-term **beneficial impact**.

- c) As described in items a-iii and a-iv, project impacts related to ground failure, liquefaction, and landslides **would be less than significant**. Implementation of the project would not make the underlying soils more prone to such structural failures and should in fact reduce the likelihood of landslides by improving stability of the bluff.
- d) The Project's roadway improvements would be constructed in accordance with the recommendations included in a Project Geotechnical Investigation Report, such as placing pavement and structural foundations upon non-expansive engineering fill. The bluff stabilization component of the project would not be subject to expansive soils hazards. Therefore, there would be a **less-than-significant impact** with respect to expansive soils.
- e) The proposed project does not include the construction or operation of septic tanks or other wastewater disposal systems. There would be **no impact** with respect to these systems.
- f) The geologic units underlying the project alignment and their paleontological resources were determined based on the record search and literature review conducted for the adjacent Coastal Rail Segments 10 and 11 Environmental Impact Report⁸. The project is underlain by Quaternary marine terrace deposits and the Purisima Formation, both of which have high paleontological sensitivity because in Santa Cruz County, these geologic units are known to yield paleontological resources. Ground disturbance in these

⁸ MCRTS, Coastal Rail Trail Segments 10 and 11 Final Environmental Impact Report, Figure 3.5-3b. March 2024.

sediments can adversely affect these resources if they are present. In this case, the project would not have the potential to affect these resources because the ground disturbance would not exceed four inches in depth, whereas paleontological resources typically occur at greater than one foot in depth (in the sedimentary rock formation below the soil layer). The soil nails, which would be placed at an angle up to 45 feet in the cliff walls, would not significantly affect paleontological resources because their small circumference (up to 8-inch hole) and wide spacing along the cliff would have minimal impacts on stratigraphy. This impact would be **less than significant**.

- g) Soil nails would be placed at an angle up to 45 feet into the cliff walls. They would not likely significantly affect paleontological resources because of their small circumference (hole would be 8" in diameter), spaced out along the cliff, and have minimal impacts on stratigraphy. This impact would be **less than significant**.

VIII. Greenhouse Gas Emissions

Would the Project:

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

Background

“Greenhouse gases (GHGs) are atmospheric gases that capture and retain a portion of the heat radiated from the earth after it has been heated by the sun. The primary GHGs are carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). While GHGs are natural components of the atmosphere, CO₂, CH₄, and N₂O, are also emitted from human activities and their accumulation in the atmosphere over the past 200 years has substantially increased their concentrations. This accumulation of GHGs has been implicated as the driving force behind global climate change.

Human emissions of CO₂ and N₂O are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with organic decay processes in agriculture, landfills, etc. The global warming potential of GHGs are typically reported in comparison to that of CO₂, the most common and influential GHG, in units of “carbon dioxide-equivalents” (CO₂e).

There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

The California Air Resources Board (CARB) estimated that in 2020 California produced about 369 million gross metric tons (MMT) of CO₂e. Transportation sources produce about 38 percent of the state’s GHG emissions, followed by industrial sources at about 23 percent, electricity generation (both in-state and out-of-state sources) at about 16 percent, and agriculture/forestry at about 9 percent.

Assembly Bill 32 (AB 32), the California Global Warming Solutions Act (2006), required the CARB to lower State GHG emissions to 1990 levels by 2020—a 25 percent reduction statewide with mandatory caps for significant GHG emission sources. AB 32 directed CARB to develop discrete early actions to reduce GHG while preparing the Climate Change Scoping Plan to identify how best to reach the 2020 goal. (CARB, Assembly Bill 32 Overview)

Statewide strategies to reduce GHG emissions to attain the 2020 goal include the Low Carbon Fuel Standard (LCFS), the California Appliance Energy Efficiency regulations, the California Renewable Energy Portfolio standard, changes in the motor vehicle corporate average fuel economy (CAFE) standards, and other early action measures that would support achievement of the GHG emissions reduction goals of AB 32.

To attain the longer-range GHG emissions reductions required by AB 32 (i.e., reducing GHG emissions to 40% below 1990 levels by 2030), several additional climate change strategies were introduced in 2015: (1) reducing present petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent the share of California's 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 GHGs; (5) managing farm and rangelands, forests and wetlands to more efficiently store carbon; and (6) periodically updating the State's climate adaptation strategy.

Discussion

- a, b) The Project would generate greenhouse gas emissions during its construction, which would occur over a period of about six months. GHG emissions would also come from the use of trucks transporting debris and supplies to/from the site, and from the motor vehicles of the construction workers. The MBARD Guidelines have no quantitative significance threshold for construction GHG emissions, but recommends that lead agencies estimate those emissions. Project construction GHG emissions were estimated using the CalEEMod model to be about 387 metric tons of CO₂e from the equipment, trucks and worker vehicles.

Once the Project is complete, there would be no operational GHG emissions. The Project components include the reinforced cliff face, rip-rap placement and the new roadbed and pavement, none of which would have any associated GHG emissions. There would be no additional VMT generated would continue as before, but likely be less intensive after the Project cliff reinforcements and roadway improvements. Community use of the installed recreational amenities would continue as before. There would be no Project conflict with State or County plans, policies, or regulations adopted for the purpose of reducing GHG emissions. These impacts would be **less-than-significant**.

IX. Hazards and Hazardous Materials

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X
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?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
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?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

Discussion

- a) Project operations would not involve the routine transport, use, or disposal of hazardous materials. Therefore, it would not create a significant hazard to the public or the environment from such activities and **no impacts** would occur.
- b) Project construction activities may involve the use and transport of hazardous materials. These materials may include fuels, oils, mechanical fluids, and other chemicals that may

be used during earth moving activities. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, state, and local statutes and regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials. In addition, the construction contractor would be required to implement a Stormwater Pollution Prevention Plan (SWPPP) to be implemented during construction activities to prevent contaminated runoff from leaving the project site. Therefore, a **less-than-significant impact** would occur during construction activities.

- c) As described in response to question IX a, above, the project operations would not involve the long-term use of hazardous materials, and construction use of such materials would be carefully implemented in compliance with all applicable regulations. There are no schools near the site. The construction sites would be fenced, and no public access would be permitted. Therefore, the project would have **no impact**.
- d) A review of the Envirostor database (Cortese List) indicated that there are no known hazardous waste sites within 1000 feet of the site⁹. Therefore, the project would have **no impact** with respect to Cortese List sites.
- e) The project site is not within two miles of an airport or within an airport land use plan area. Therefore, it would not present a hazard to air safety, and **no impact** would occur.
- f) Construction and operation of the project are not expected to interfere with City of Capitola or Santa Cruz County's emergency response because it would improve the safety of the roadway. During construction, access would be maintained, including emergency access. **Therefore, the impact would be less than significant.**
- g) The project is in a developed urban area, surrounded by other urban uses and Monterey Bay. The project would not introduce any new fire hazards. Therefore, the project would have a **less-than-significant** impact with respect to wildfire hazards.

⁹<https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=east+cliff+drive+capitola>

X. Hydrology and Water Quality

Would the Project:

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

Background

Project Area Hydrology

The California Department of Water Resources subdivides hydrologic regions into Hydrologic Units that are commonly known as watersheds. In the Central Coast Hydrologic Region, the project alignment is located in the Big Basin HU. The Central Coast Regional Water Quality

Control Board (CCRWQCB) governs basin planning and water quality in the Big Basin HU (CCRWQCB 2019). The California Department of Water Resources further subdivides HUs into hydrologic areas and hydrologic subareas. The Project corridor is located in the Santa Cruz Hydrologic Area and the Soquel Creek Watershed. Sedimentation and impairment of important fish habitat have been identified as principal resource concerns in this watershed.

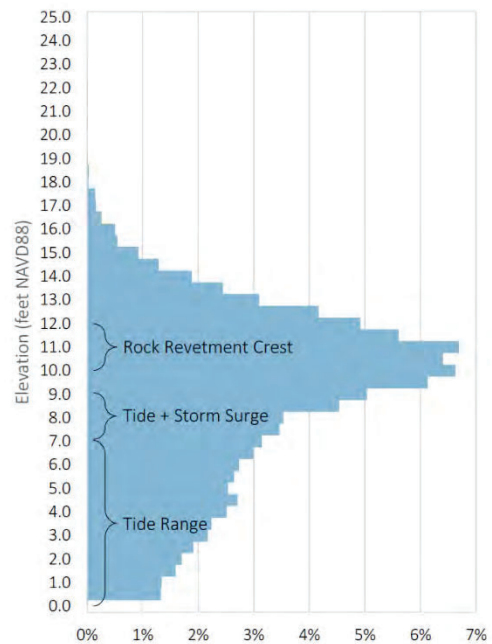
The project alignment drains directly to the Pacific Ocean (Monterey Bay) via a system of storm drains. It does not cross any natural drainages.

Flooding and Sea Level Rise

The highest wave runup elevations are associated with waves from the west-southwest direction. In a 100-year storm event, the wave runup from this direction will be to an elevation of approximately +16 feet NAVD88. As the clifftop elevation along Cliff Drive ranges from ranges between 47 and 68 feet NAVD88, there is no risk of storm waves overtopping the roadway.

The crest of the existing rock revetment at the base of the bluff is at an elevation of +10 to +12 feet NAVD88, which is likely overtopped by waves annually. This action creates the sea caves along the base of the bluff leading to its further erosion.

The figure to the right illustrates the distribution of wave runup at the base of the bluff at 0.5-ft increments, shaded in blue. The tide range, extreme tide range with storm surge, and revetment crest elevation is shown for reference. The highest wave runup elevation is estimated to be elevation +21.6 feet NAVD88, which occurred during the January 5, 2023, bomb cyclone. Other instances of high wave runup past elevation +18.0 feet NAVD88 occurred during the 1982-83 and 1997-98 very strong El Niño episodes.



The wave conditions at the toe of the rock revetment are characterized by depth-limited wave breaking. Depth-limited wave breaking refers to a phenomenon in coastal and ocean wave dynamics where the breaking of waves is primarily controlled by the water depth. It occurs when waves traveling in shallow water (relative to their wavelength) reach a critical height, causing them to break. This type of wave breaking is influenced more by the ocean floor than by the wind or other factors.

The change in water level between a 1-year storm event and a 100-year storm event is about 1 foot. During strong El Niño episodes, the water level can rise by as much as 1.2 feet, and in very strong El Niño episodes about 1.5 feet. Consequently, the strong and very strong El Niño episodes experienced over the last several decades can be taken as a preview of sea level rise.

This illustrates that a rise in the sea level will have a pronounced impact on wave runup. With sea level rise, episodes of waves overtopping over the crest of the rock revetment will become more frequent and more impactful.

The sea level trend based on tides recorded at Monterey from 1973 to 2024 indicates a rise of about 0.07 inches per year or 0.58 feet over a century. Climate scientists expect this trend to accelerate as a result of climate change. The Ocean Protection Council (OPC) has released updated sea level rise guidance for California. The OPC document entitled, “DRAFT: State of California Sea Level Rise Guidance: 2024 Science and Policy Update” evaluates potential sea level rise for future years and three potential emissions scenarios. An excerpt of the OPC data is shown in the following table.

OPC Sea Level Rise Guidance			
Year	Intermediate (feet)	Intermediate-High (feet)	High (feet)
2050	0.8	1.0	1.2
2080	1.8	3.0	4.1
2100	3.1	4.9	6.6
2130	5.0	7.1	10.0

By 2080 sea level rise will be between 1.8 and 4.1 feet as shown in the above table, which corresponds to an absolute mean sea level elevation of 4.77 to 7.07 feet in accordance with NAVD88. For 2130, sea level rise will be between 5 and 10 feet, which, when added to the 100-year water level of 8.2 feet as shown in the Tidal Data above corresponds to an absolute mean sea level elevation of between 13.2 and 18.2 feet NAVD88. Note that the OPC guidelines show the amount of sea level rise only and do not account for tides or other meteorologic phenomena. The following summarizes the absolute elevations of future sea level rise scenarios.

Future Sea Level Conditions at Cliff Drive			
Year	OPC Intermediate (Feet) NAVD88	OPC Intermediate High (Feet) NAVD88	OPC High (Feet) NAVD88
2080	10.0	11.2	12.3
2130	13.2	15.3	18.2

The cliff-base portion of the project area is in a FEMA-mapped 100-year flood plain¹⁰.

Tsunami and Seiche Hazards

A seiche is a standing wave oscillating in a body of water and may occur in any enclosed or semi-enclosed bodies of water, such as bays and lakes. Seiches are typically caused by strong wind and rapid changes in atmospheric pressure. They can also form along ocean shelves and harbors

¹⁰ <https://gis.santacruzcounty.us/gisweb/>

due to earthquakes, tsunamis, or severe storm fronts. The project corridor would not pass near an enclosed body of water.

A tsunami is a series of waves generated by an impulsive disturbance in the ocean or in a small, connected body of water. Tsunamis are produced when movement occurs on faults in the ocean floor, usually during large earthquakes. Sudden vertical movement of the ocean floor when fault movement occurs can displace the overlying water column, creating a wave that travels outward from the earthquake source. An earthquake anywhere in the Pacific can cause tsunamis around the entire Pacific basin. Since the Pacific Rim is highly seismically active, tsunamis are not uncommon (City of Santa Cruz 2018). For example, in January 2022, a tsunami caused by an underwater volcano near Tonga caused damage to utility infrastructure, pilings, and facilities such as restrooms and showers in the Santa Cruz Harbor, and in 2011, a tsunami caused by an 8.9 magnitude earthquake off the coast of Japan caused extensive damage to the coastline and Santa Cruz Harbor.

The entire project site is within a mapped tsunami runup zone¹¹.

Water Quality

As described in the Geology Section above, with respect to erosion, the water bodies within the project area are within the jurisdiction of the Central Coast Section of the Regional Water Quality Control Board (RWQCB), which regulates stormwater discharges to the ocean in conformance with the Central Coast RWQCB Water Quality Control Plan (Basin Plan), which identifies uses for surface water bodies in the Basins that are critical to management of water quality. Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning.

Groundwater

The Santa Cruz Mid-County Groundwater Basin underlies the project corridor. The lateral boundaries of the basin generally follow the definable limits of the stacked Purisima Formation aquifer system and the Aromas Red Sands, plus some other Tertiary-aged units that occur between the base of the Purisima Formation and the granitic basement of the basin.

Regulatory Overview

The Federal Clean Water Act and the California Porter-Cologne Water Quality Control Act require that large urban areas discharging stormwater into Monterey Bay or the Pacific Ocean have an NPDES permit to prevent harmful pollutants from being dumped or washed by stormwater runoff, into the stormwater system, then discharged into local waterbodies. In 2003, smaller (less than 100,000 population) municipalities and unincorporated county areas were required to obtain

¹¹ <https://www.conservation.ca.gov/cgs/tsunami/maps/santa-cruz>

coverage under a statewide NPDES Municipal General Stormwater Permit (Phase II Permit) issued by the State Water Resources Control Board.

Stormwater permits applicable to the project site are described in the Soils and Geology Section, under the Erosion discussion.

Discussion

- a) Construction activities both on the bluff and in upland areas could cause short-term, temporary impacts on water quality that would violate requirements in federal, state, and/or local stormwater control programs. Clearing and grubbing, and material placement on the bluff face could cause increases in suspended sediment concentration and introduce petroleum contaminants (oil, grease, fuel, etc.) into Monterey Bay. Construction activities in upland areas, including earth-moving and material stockpiling/transportation, also could introduce sediment and petroleum contaminants into the rainfall runoff. However, preparation of the required SWPPP and use of BMPs, as described below, would ensure these potential impacts would be **less-than-significant**. Over the long term, the project would have a **net benefit** on the water quality of Monterey Bay by reducing rates of bluff erosion and resulting sediment pulses.

The required Stormwater Pollution Control Plan (SWPPP) would require applications of Best Management Practices (BMPs) to control soil erosion and runoff from construction work areas. The BMPs would include, but would not be limited to, physical barriers to prevent erosion and sedimentation, limitations on work periods during storm events, protection of stockpiled materials, establishment of dedicated equipment staging and maintenance areas, and hazardous material storage and spill response protocols. The BMPs included in the SWPPP would be developed to satisfy City stormwater quality requirements and would include erosion control both during and after project implementation.

- b) The proposed project does not include groundwater extraction, placement of impermeable surfaces over a groundwater recharge area, or trenching/drainage that could potentially impede sustainable groundwater management. Areas covered by roadways and trails would be substantially similar to existing conditions, and the project lies at the margin of the groundwater basin. There would be **no impact** on groundwater resources due to the project.
- c) i, ii) The project would not substantially alter drainage patterns at the site or increase the amount of surface runoff. Implementation of the measures identified in the Soils and Geology section would reduce erosion and siltation impacts during construction to a **less-than-significant** level. In the long term, the project would reduce rates of shoreline erosion and resulting sediment pulses to the Bay.
- iii) The project site includes an existing stormwater drainage under the roadway however the project does not include any elements that would increase the amount of surface runoff or

alter the storm drainage system. Implementation of the SWPPP would minimize runoff of sediment and or other contaminants from active work areas during construction, thus reducing potential water quality impacts to a **less- than-significant** level.

iv) None of the proposed project design elements would affect flood flows. In fact, construction of the project would involve improved storm drainage facilities to direct runoff from the roadway to the base of the bluff. Therefore, this impact would be **less than significant**.

- d) The lower areas of the project along and for about 18 feet above the base of the bluff would be located within the tidal runup zone, within the 100-year floodplain, as delineated on the FEMA flood hazard maps. As such, those areas of the site would be prone to inundation during extreme storm/flood events. The roadway improvement area is outside of the mapped flood hazard zones. The project does not include any elements that, in the long term, could potentially release pollutants during such inundation events. The project would not affect flooding and would have **less-than-significant** impacts associated with flood hazards.

The entire project site is within a tsunami hazard zone however the project would increase bluff and roadway protection from these hazards. Therefore, the project would have a **less-than-significant** impact.

- e) As discussed in item a, project construction would require compliance with applicable water quality control plans and laws. Implementation of the measures identified in item a would achieve compliance with these laws, resulting in a **less-than-significant impact** due to project construction. The project would provide a net benefit to water quality in the long-term by reducing rates of shoreline erosion and resulting sediment pulses. As discussed in item b, the project would have **no impact** upon groundwater resources and would not conflict with any applicable sustainable groundwater management plan.

XI. Land Use and Planning

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?				X
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?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?			X	

Discussion

- a) The bluff stabilization is proposed to be constructed on the face of an undeveloped bluff and along the shoreline below. The proposed roadway improvements are on an existing road and trail right of way. The project would not have any potential to change the existing land use on the site or vicinity, nor would it create conflicts between uses or divide an established community, there would be **no impact**.
- b) The City of Capitola General Plan Land Use Map and the City's zoning ordinance designate the site as Public/Quasi Public. Relevant City General Plan and Local Coastal Program Land Use Plan Policies are summarized in Table LU-1, below. The project would be consistent with all applicable plans and policies. Therefore, the project would have **no impact** on plan conformance.
- c) The lower areas of the project site, along the shoreline and base of the bluff, are located within the boundaries of the Monterey Bay National Marine Sanctuary. As detailed in the Biological Resources section of this IS, the project would avoid potentially significant impacts to sensitive biological resources in the Sanctuary. Therefore, it would not conflict with any habitat plans and the impact would be **less than significant**.

Table LU-1 City of Capitola General Plan Policy Consistency Analysis

City of Capitola General Plan Policy	Consistency Discussion
Land Use	
Policy LU-1.3. Compatible Development. Ensure that all new development is compatible with neighboring land uses and development.	Consistent. The Project corridor is zoned as Public and Community Facilities and as Community Facility by the County Zoning Ordinance and the Capitola Zoning Ordinance, respectively. The land use designation in the Project corridor is Public Facilities in the County and Public/Quasi-Public in the City. The Project would be consistent with the associated General Plan designations and would be permitted in the associated zoning districts. Therefore, the Project would be consistent with this policy.
Policy LU-2.1. Historic Structures. Encourage the preservation, restoration, rehabilitation, maintenance, and adaptive reuse of important historic structures in Capitola.	Consistent. No historic structures would be affected by this project. Therefore, implementation of the Project would be consistent with this policy.
Policy LU-3.2. Walkability. Encourage development and land uses that enhance a pedestrian-oriented environment.	Consistent. The Project would involve construction of the portion of the separately approved Santa Cruz Regional Transportation Commission’s Coastal Rail Trail multi-modal trail along the project alignment. This would enhance connectivity and provide additional pedestrian facilities in Capitola. Therefore, the Project would be consistent with this policy.
Policy LU-6.4. Public Spaces. Provide high quality public spaces available for the use and enjoyment of visitors and residents. Prioritize pedestrian access to these spaces and maintain amenities, such as seating areas, drinking fountains, restrooms, and landscaping that invite and encourage pedestrian activity.	Consistent. The Project would enhance pedestrian/cyclist access and connectivity in Capitola and Santa Cruz County and would include pedestrian amenities and landscaping that would contribute to high-quality public spaces. Therefore, the Project would be consistent with this policy.

Table LU-1 City of Capitola General Plan Policy Consistency Analysis

City of Capitola General Plan Policy	Consistency Discussion
Policy LU-7.3. Scenic Resources. Protect and enhance significant scenic views and resources that contribute to the unique identity and public enjoyment of the Village. Scenic resources include: ▪ The general pedestrian-oriented and coastal village character of existing development in the Village. ▪ Public and semi-public gathering places, including Esplanade Park, Lawn Way, Capitola Beach, Soquel Creek path, and the historic Capitola Wharf. ▪ Landscaping and streetscape amenities. ▪ Historic structures, including structures contributing to Capitola's four National Register Historic Districts and structures listed on the official City of Capitola Historic Structures List. Natural features such as Capitola Beach, Soquel Creek and Lagoon, cliffs and bluffs, and vegetated banks.	Consistent. The Project would not include structures or bulky features that would hinder public scenic views of the nearby vistas, including Capitola Village, Capitola Beach, Capitola Wharf, or natural features. Project fencing, both along the trail and at waterway crossings, is designed to maximize views of public vistas along the trail. The Project would be consistent with this policy.
Action LU-14.2. Regional Trails. Cooperate with the Regional Transportation Commission to encourage connections with regional trails such as the Monterey Bay Sanctuary Scenic Trail (MBSST).	Consistent. The Project would involve construction of a portion of Segment 11 of the MBSST.
Open Space and Conservation	
Policy OSC-3.2. Development Design. Encourage development project designs that protect and improve air quality and minimize direct and indirect air pollutant emissions by reducing vehicle trips (e.g. projects with access to transit and projects that provide walking and bicycling amenities), as well as by being energy-efficient.	Consistent. The Project would provide a multi-use bicycle and pedestrian trail. Therefore, the Project would be consistent with this policy.
Policy OSC-6.3. Development Projects. Ensure that new development avoids, minimizes, and/or mitigates impacts to biological resources and sensitive habitat.	Consistent. As discussed in Section 3, <i>Biological Resources</i>, the Project would be required to implement Mitigation Measures that would reduce most potentially significant impacts to biological resources to a less than significant level. Therefore, the Project would be consistent with this policy.
Mobility	

IS/MND for the Cliff Drive Resiliency Project

Policy MO-8.3 All Users. Ensure that bikeways in Capitola are safe and convenient for bicyclists of all ages and abilities.	Consistent. The Project would include safety features (such as safety fencing, guardrails, signage, pavement markings, and trail narrowing and/or chicanes to slow trail users before intersections) to protect trail users (including bicyclists) from conflicts along the railway, adjacent roadways, and roadway crossings. Specifically, for an approximately 350-foot portion of Cliff Drive where pedestrians and bicyclists currently share the coastal Class II bike lane, the width of the existing bicycle and vehicular lanes would be revised to allow for demarcation of a separate 4-foot-wide pedestrian path on the coastal side of the Class II bike lane. This would allow for separation of pedestrians and bicyclists where they are currently intermixed. The Project would be consistent with this policy.
Policy MO-8.4 Safety. Improve public safety by minimizing conflicts between bicyclists and motor vehicles on Capitola's roadways	Consistent. See Policy MO-8.3.
Policy MO-9.2 Pathways. Maintain and improve pedestrian pathways in Capitola, particularly pathways providing pedestrian access to natural areas and scenic vistas.	Consistent. The Project would increase public access to viewpoints for natural areas and scenic vistas. The Project would be consistent with this policy.
Safety and Noise	
Policy SN 2.4. Bluff Erosion. Ensure that new development is located, designed, and maintained in a manner that reduces hazards resulting from bluff erosion.	Consistent. The Project would reduce hazards from bluff erosion.
City of Capitola Local Coastal Plan Policy	Consistency Discussion
Policy OSC-6.3. Development Projects. Ensure that new development avoids, minimizes, and/or mitigates impacts to biological resources and sensitive habitat.	Consistent. As discussed in Section 3, <i>Biological Resources</i> , the Project would be required to implement Mitigation Measures that would reduce most potentially significant impacts to biological resources to a less than significant level. Therefore, the Project would be consistent with this policy.
Policy II-1 It shall be the policy of the City of Capitola to provide safe and adequate pedestrian access to and along the shoreline as designated in the Shoreline Access Plan (see Maps II-1,2, and 3).	Consistent. The project would include bike paths and walkways.
Policy II-4 Provide for a safe pedestrian and bicycle path and/or sidewalk on or along Cliff Drive, and provide improvements including landscaping, benches, etc., and parking turn-out areas to facilitate both pedestrian and auto use.	Consistent. See Policy II-1, above.

CCA SEC. 30253 (1) AND (2)

New development shall:

- 1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
- 2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

Consistent. The project would reduce erosion and geologic instability.

CCA SEC. 30235

Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes 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. Existing marine structures causing water stagnation contributing to pollution problems and fishkills should be phased out or upgraded where feasible.

Consistent. The proposed cliff stabilization, as mitigated via this Initial Study, is required to protect the existing roadway.

Policy VII-10: The City should continue to participate with the State Department of Boating and Waterways in studying the bluff erosion problem and possible solutions. The City should participate in any proposed shoreline project only if the project is in conformance with other LCP policies.

Consistent. The project represents a solution to the area's coastal bluff erosion.

XII. Mineral Resources

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
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?				X

Discussion

- a, b) The project site is located on an existing roadway as well as on a cliff facing the ocean. There are no economically valuable mineral resources in the alignment or on the cliff. Therefore, the project would have **no impact** on mineral resources.

XIII. Noise

Would the Project result in:

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

Background

RCH Group, Inc. (RCH) performed noise monitoring at the project site in February 2025 (see Appendix B). The following provides the results of the noise monitoring and an analysis of potential noise impacts from the proposed project.

Noise Descriptors

Noise can be defined as unwanted sound. It is commonly measured with an instrument called a sound level meter. The sound level meter captures the sound with a microphone and converts it into a number called a sound level. Sound levels are expressed in units of decibels. To correlate the microphone signal to a level that corresponds to the way humans perceive noise, the A-weighting filter is used. A-weighting de-emphasizes low-frequency and very high-frequency sound in a manner similar to human hearing. The use of A-weighting is required by most local General Plans as well as federal and state noise regulations (e.g. Caltrans, EPA, OSHA and HUD). The abbreviation dBA is sometimes used when the A-weighted sound level is reported.

Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are the equivalent A-weighted sound level over a given time period (Leq)¹²; average day-night 24-hour average sound level (Ldn)¹³ with a

¹²The Equivalent Sound Level (Leq) is a single value of a constant sound level for the same measurement period duration, which has sound energy equal to the time-varying sound energy in the measurement period.

¹³Ldn is the day-night average sound level that is equal to the 24-hour A-weighted equivalent sound level with a 10-decibel penalty applied to night between 10:00 p.m. and 7:00 a.m.

nighttime increase of 10 dB to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL)¹⁴, also a 24-hour average that includes both an evening and a nighttime sensitivity weighting. **Table NOISE-1** identifies decibel levels for common sounds heard in the environment. With regard to increases in A-weighted noise level, the following relationships occur (Caltrans, 1998a):

- Under controlled conditions in an acoustics laboratory, the trained healthy human ear is able to discern changes in sound levels of 1 dB;
- Outside of such controlled conditions, the trained ear can detect changes of 2 dB in normal environmental noise;
- The average healthy ear can perceive noise levels changes of 3 dB;
- A change in level of 5 dB is a readily perceptible increase in noise level; and
- A 10-dB change is recognized as twice as loud as the original source.

Table NOISE-1. Typical Noise Levels

Noise Level (dB)	Outdoor Activity	Indoor Activity
90+	Gas lawn mower at 3 feet, jet flyover at 1,000 feet	Rock Band
80-90	Diesel truck at 50 feet	Loud television at 3 feet
70-80	Gas lawn mower at 100 feet, noisy urban area	Garbage disposal at 3 feet, vacuum cleaner at 10 feet
60-70	Commercial area	
40-60	Quiet urban daytime, traffic at 300 feet	Large business office, dishwasher next room
20-40	Quiet rural, suburban nighttime	Concert hall (background), library, bedroom at night
10-20		Broadcast / recording studio
0	Lowest threshold of human hearing	Lowest threshold of human hearing

SOURCE: Modified from Caltrans Technical Noise Supplement, 1998a

Vibration

Vibration is an oscillatory motion which can be described in terms of the displacement, velocity, or acceleration. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal and is typically expressed in units of inches per second (in/sec). The PPV is the most frequently used to describe vibration impacts on buildings. Some common sources of ground-borne vibration from construction activities are blasting, pile driving, and operation of heavy earthmoving equipment.

¹⁴CNEL is the average A-weighted noise level during a 24-hour day, obtained by addition of 5 decibels in the evening from 7:00 to 10:00 p.m., and an addition of a 10-decibel penalty in the night between 10:00 p.m. and 7:00 a.m.

Noise Attenuation

Stationary point sources of noise, including construction equipment, attenuate (lessen) at a rate of 6 to 7.5 dB per doubling of distance from the source, depending on ground absorption. Soft sites attenuate at 7.5 dB per doubling because they have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees. Hard sites have reflective surfaces (e.g., parking lots or smooth bodies of water) and therefore have less attenuation (6.0 dB per doubling). A street or roadway with moving vehicles (known as a “line” source), would typically attenuate at a lower rate, approximately 3 to 4.5 dB each time the distance doubles from the source, that also depends on ground absorption (Caltrans, 1998b). Physical barriers located between a noise source and the noise receptor, such as berms or sound walls, would increase the attenuation that occurs by distance alone.

Regulatory Context

Federal

There are no applicable federal noise requirements.

State

The State of California establishes noise insulation standards known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of 45 dB, Ldn in any habitable room. They require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than 60 dB, Ldn.

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State pass-by standard is consistent with the federal limit of 80 dB. The State pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

Local

The project site is in the City of Capitola. However, there is a portion of the project alignment along the base of the cliff that is owned by Santa Cruz County (APN-032-071-04). Therefore, noise policies from Santa Cruz County are considered in this analysis.

City of Capitola General Plan

The City of Capitola General Plan Noise Element aims to limit community exposure to unwanted, unhealthy, and disruptive noise (City of Capitola, 2014). The City of Capitola General Plan Noise Element states that the most significant source of noise in Capitola is roadway noise from Highway 1 and local arterial roads.

The following policies from the City of Capitola General Plan Noise Element are relevant to the project:

Goal SN-7: Minimize the community's exposure to excessive noise.

Policy SN-7.3: Noise Control Ordinance. Maintain Capitola's Noise Ordinance (Municipal Code Chapter 9.12), which addresses the hours of operation of construction equipment, outdoor power tool use, leaf blowers, parking area vacuums, loud parties and activities, and vehicle noise.

City of Capitola Municipal Code

The City of Capitola Municipal Code contains a Noise Ordinance (Chapter 9.12) that provides noise standards for construction activities. Per Section 9.12.010 (B), "Except when otherwise specified in a land use permit or building permit issued by the city, any construction activity within the city shall be subject to a construction noise curfew. Construction noise shall be prohibited between the hours of nine p.m. and seven-thirty a.m. on weekdays. Construction noise shall be prohibited on weekends with the exception of Saturday work between nine a.m. and four p.m. or emergency work approved by the building official."

Santa Cruz County General Plan

The Santa Cruz County General Plan Noise Element provides standards that are used to address concerns of noise exposure on new development and from noise sources on existing noise-sensitive receptors (Santa Cruz County, 2020).

The following policies from the Santa Cruz County General Plan Noise Element are relevant to the project:

Objective 9.2: Noise Exposure of Existing Sensitive Uses and Receptors. Minimize exposure of existing noise-sensitive land uses and receptors to excessive, unsafe, or disruptive noise that may be generated by new land uses and development projects.

Policy 9.4.3: Continue to consider noise concerns in evaluating all proposed development decisions related to roadway and other transportation projects.

Policy 9.6.2: Enforce the County of Santa Cruz Noise Ordinance (County Code Chapter 8.30) to ensure that unlawful noise-generating activities and offensive noises are subject to enforcement.

Policy 9.6.4: Continue to enforce noise abatement and control measures that have been required, designed and incorporated into development projects, particularly within or adjacent to residential neighborhoods and sensitive receptors.

Santa Cruz County Code

Chapter 13.15 (Noise Planning) of the Santa Cruz County Code provides noise standards for construction activities. Per Section 13.15.040 (A), “Noise sources normally and reasonably associated with construction, repair, remodeling, or grading of any real property, provided a permit has been obtained from the County as required, and provided said activities take place between the hours of 8:00 a.m. and 5:00 p.m. on weekdays unless the Building Official has in advance authorized said activities to start at 7:00 a.m. and/or continue no later than 7:00 p.m. Such activities shall not take place on Saturdays unless the Building Official has in advance authorized said activities, and provided said activities take place between 9:00 a.m. and 5:00 p.m. and no more than three Saturdays per month. Such activities shall not take place on Sunday or a federal holiday unless the Building Official has in advance authorized such work on a Sunday or federal holiday, or during earlier morning or later evening hours of a weekday or Saturday.”

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others due to the amount of noise exposure, in terms of both duration and insulation from noise, and the types of activities typically involved. Residences, hospitals, schools, and nursing homes are generally more sensitive to noise than commercial and industrial land uses.

Noise-sensitive land uses in the City of Capitola General Plan Noise Element are defined as residences, hospitals, libraries, schools, parks, and retirement homes (City of Capitola, 2014). Noise-sensitive land uses in the Santa Cruz County General Plan Noise Element are defined as residential uses, schools, hospitals, churches, convalescent care facilities, and hotels (Santa Cruz County, 2020). The nearest residences are directly northeast of the project boundary along Cliff Drive (approximately 30 feet away from the nearest proposed road improvements). There are residences approximately 150 feet west of the project boundary along Prospect Avenue and residences approximately 300 feet south of the project boundary along Cliff Drive.

Existing Noise Environment

To quantify existing ambient noise levels, this noise study included two long-term (72-hour) and three short-term (10-minute) noise measurements at the project site. **Table NOISE-2** summarizes the locations and results of the noise measurements. **Figure 7** shows the noise measurement locations on a map.

Based on observations from the short-term measurements, the main source of existing noise in the project vicinity is noise from traffic on Cliff Drive. Other sources of noise included waves crashing, people walking along Cliff Drive and Prospect Avenue, and winds.

TABLE NOISE-2. EXISTING NOISE LEVELS

Location	Time Period	Noise Levels (dB)	Noise Sources
Site 1: Directly adjacent to home nearest to project boundary, approximately 50 feet east of Cliff Drive.	February 18, 12:00 a.m. through February 20, 11:59 p.m., 2025 72-hour measurement.	Hourly Leq's ranged from: 56-70 CNEL: 65, 65, 64	Unattended noise measurements do not specifically identify noise sources.
Site 1: Directly adjacent to home nearest to project boundary, approximately 50 feet east of Cliff Drive.	Monday February 17, 2025 10:56 a.m. to 11:06 a.m.	5-minute Leq's: 63, 64	Cars passing on Mora Drive ranged from 62-75 dB. Constant waves crashing ranged from 63-65 dB. People walking along Cliff Drive ranged from 52-59 dB.
Site 2: Directly south of homes along Prospect Avenue, approximately 150 feet west of project boundary.	February 18, 12:00 a.m. through February 20, 11:59 p.m., 2025 72-hour measurement.	Hourly Leq's ranged from: 43-74 CNEL: 55, 61, 54	Unattended noise measurements do not specifically identify noise sources.
Site 2: Directly south of homes along Prospect Avenue, approximately 150 feet west of project boundary.	Monday February 17, 2025 11:26 a.m. to 11:36 a.m.	5-minute Leq's: 60, 57	Cars passing on Mora Drive ranged from 60-74 dB. Cars passing on Prospect ranged from 62-69 dB. Wind was 51 dB.
Site 3: Directly adjacent to homes along Cliff Drive approximately 300 feet south of project boundary.	Wednesday February 5, 2025 11:11 a.m. to 11:21 a.m.	5-minute Leq's: 64, 64	Cars passing on Mora Drive ranged from 60-73 dB. Constant waves crashing ranged from 60-65 dB. People walking along Cliff Drive ranged from 50-55 dB.

Source: RCH Group, 2025



Figure 7
Noise Monitoring Locations

Discussion

a) **Construction Noise Impacts**

Construction activities are anticipated to last approximately six months. Construction would not occur during rain, high winds, or extremely high tides. Construction would result in a temporary increase in ambient noise levels in the vicinity of the project. Construction activities would require the use of numerous pieces of noise-generating equipment, such as excavators and rollers and other construction equipment (e.g., cranes, pavers, trucks, air compressors, generators, etc.). The noise levels generated by construction equipment would vary greatly depending upon factors such as the type and specific model of the equipment, usage factor, the operation being performed, the condition of the equipment, and the prevailing wind direction. Construction equipment would not all operate at the same time or location. Furthermore, construction equipment would not be in constant use during the 8-hour operating day.

As discussed above, the nearest noise-sensitive receptors to construction would be the residences that are directly northeast of the project boundary along Cliff Drive (approximately 30 feet away from the nearest proposed road improvements). There are residences approximately 150 feet west of the project boundary along Prospect Avenue and residences approximately 300 feet south of the project boundary along Cliff Drive. The maximum noise levels for various types of construction equipment that would be used during project construction at 50 feet, 150 feet, and 300 feet are shown in **Table NOISE-3**.

Table NOISE-3. Typical Noise Levels from Construction Equipment (L_{max})

Construction Equipment	Noise Level (dB, L _{max} at 50 feet)	Noise Level (dB, L _{max} at 150 feet) ¹	Noise Level (dB, L _{max} at 300 feet) ²
Air Compressor	78	69	59
Concrete Mixer Truck	79	70	60
Concrete Pump Truck	81	72	62
Crane	81	72	62
Excavator	81	72	62
Front End Loader	79	70	60
Generator	81	72	62
Pump	81	72	62
Roller	80	71	61
NOTES: L _{max} = maximum sound level ¹ An attenuation rate of 6.0 dB per doubling of distance was used to attenuate noise levels to 150 feet. ² An attenuation rate of 7.5 dB per doubling of distance was used to attenuate noise levels to 300 feet to account for a berm between Cliff Drive and Prospect Avenue. Source: Federal Highway Administration (FHWA) Roadway Construction Noise Model User's Guide, 2006.			

Due to the proximity of nearby noise-sensitive receptors to Cliff Drive (a busy arterial roadway), construction noise would be similar to the existing traffic noise levels observed at nearby noise-sensitive receptors (see **Table NOISE-2**), noise level results for Sites 1-3, daytime traffic noise on Cliff Drive ranged from 60-75 dB¹⁵) and would not be expected to significantly elevate the existing ambient noise. The majority of construction activities in Capitola would occur only during the allowable construction hours outlined in Chapter 9.12 of the Capitola Municipal Code (7:30 a.m. to 9:00 p.m. Monday through Friday and 9:00 a.m. to 4:00 p.m. on Saturdays). As discussed above, a portion of the project alignment is on Santa Cruz County land. The majority of construction activities in Santa Cruz County would occur only during the allowable construction hours outlined in Chapter 13.15 of the Santa Cruz County Municipal Code (8:00 a.m. to 5:00 p.m. on weekdays, with an option for extended hours that can be authorized by the Building Official).

Although most of the construction would occur within the allowable daytime hours of construction in Capitola and Santa Cruz County, the project would require temporary nighttime construction events to allow for construction at the base of the bluff (i.e. boulder placement). This type of construction would be necessary because it can only occur during favorable low tide conditions. Temporary nighttime construction is estimated to occur intermittently for only 1-2 weeks and could occur for up to 6 hours (or as long as favorable low tide conditions last¹⁶) per night during those 1-2 weeks. During nighttime construction, a crane would be used on Cliff Drive to lower boulders down to the base of the bluff for stabilization. The crane could operate as close as 170 feet away from the nearest residence on Cliff Drive¹⁷.

Due to the proximity of nearby noise-sensitive receptors to nighttime construction proposed on Cliff Drive, this analysis considers nighttime construction noise to be potentially significant if nighttime construction noise reaching nearby residences would cause the interior noise levels to exceed 45 dB, Ldn or CNEL in any habitable room. Interior noise levels exceeding this threshold could result in sleep disturbances.

The FHWA Roadway Construction Noise Model (RCNM) (Version 1.1) was used for analyzing nighttime construction noise because it contains a robust inventory of off-road equipment and reference noise levels common to construction projects. Estimates of noise from the project are based on a roster of the maximum amount of equipment used on a given day. Therefore, the noise level and usage factor associated with the proposed use of nighttime equipment (i.e., crane) is typical for the equipment type and not based on any specific make or model. **Table NOISE-4** presents the results of RCNM for the abovementioned nighttime construction as an hourly Leq value.

As shown in **Table NOISE-4**, use of a crane during temporary nighttime construction would result in an exterior noise level of 62 dB, Leq at the nearest sensitive receptor and

¹⁵ Based on observations during short-term noise measurements taken at Sites 1-3.

¹⁶ The National Oceanic and Atmospheric Administration (NOAA) states that low tides can last up to 6 hours. https://oceanservice.noaa.gov/education/tutorial_tides/tides05_lunarday.html.

¹⁷ Note that during site observations conducted by RCH on February 17 and 21, 2025, the nearest home on Cliff Drive appeared to be vacant with no tenants living in the property. There were several signs indicating the property was for sale. However, this analysis will assume that this residence would be occupied during nighttime construction.

an interior noise level of 32-37 dB, Leq. This would not exceed an interior noise level of 45 dB, Ldn or CNEL (the resulting interior noise level calculation of 32-37 dB, Leq assumes that windows and doors are closed at the nearest sensitive receptor during nighttime construction events which would reduce exterior noise levels by approximately 25-30 dB).

Note that the estimated noise levels presented in **Table NOISE-4** are for when boulder placement is occurring closest to the nearest residence. The majority of nighttime construction would occur at distances greater than 170 feet away from the nearest residence, thus nighttime noise levels would be well below the estimates shown in **Table NOISE-4**.

Table NOISE-4. Estimated Interior Noise Levels at Nearby Residences During Nighttime Construction

Activity	Principal Noise Source	Distance to Receptor	Usage Factor	Leq(h) Level (dB) ¹	Calculated Interior Noise Level with Exterior-to-Interior Reduction (dB) ²	Threshold (dB, Ldn/CNEL)	Exceeds Threshold ?
Night-time Construction	Crane	170 feet	16%	62	32-37	45	No
NOTES: The hourly Leq level is adjusted for distance from the nearest sensitive receptor and the percentage of usage. Assumes noise reduction afforded by building construction for modern building of 25-30 dB exterior-to-interior noise level reduction, assuming windows and doors are closed (Caltrans, 2002a). Source: RCNM, Version 1.1.; RCH Group, 2025.							

In addition, **Mitigation Measure NOISE-1** shall be implemented to provide notification of nighttime construction to residences within 200 feet of nighttime activities. With implementation of **Mitigation Measure NOISE-1**, temporary noise impacts from construction would be **less than significant**.

Mitigation Measures

Mitigation Measure NOISE-1: At least two weeks prior to nighttime construction, the applicant shall provide written notification to residences within 200 feet of the nighttime construction footprint. The written notification shall provide the estimated start time and duration of the nighttime construction, as well as provide recommendations to these residences to keep windows and doors closed during nighttime construction events.

Operational Noise Impacts

Once construction is complete, the project would not increase traffic volumes compared to the existing condition. Thus, operational noise would not be expected to increase compared to existing conditions (see **Table NOISE-2**, noise level results for Sites 1-3). Therefore, operational noise would result in a **less-than-significant impact**.

- b) Construction activities have the potential to result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. In most cases, vibration induced by typical construction equipment does not result in adverse effects on people or structures (Caltrans, 2013). At the highest levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in structural damage. Vibratory motion is commonly described by identifying the peak particle velocity (PPV).

For vibration, a PPV threshold of 0.5 inches per second or greater can cause architectural damage and minor structural damage. The FTA recommends a threshold of 0.5 PPV for residential and commercial structures (FTA, 2006). Vibrational effects from typical construction activities are only a concern within 25 feet of existing structures (Caltrans, 2002b). The nearest off-site structures would be farther than 25 feet away from construction activities. Therefore, vibration impacts from construction would be **less than significant**.

- c) The project site is not within the vicinity of a private airstrip or an airport land use plan, or within 2 miles of a public use airport. Therefore, airport noise would have **no impact** on the project

XIV. Population and Housing

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

Discussion

- a) The proposed bluff stabilization project would not directly or indirectly increase population growth because no new housing or permanent jobs would be created by the project. No extensions of roads or other infrastructure would be required that would indirectly induce growth. Therefore, the project would not induce new development on nearby lands, and **no impact** would occur.
- b) The proposed project would not affect, remove, or displace existing housing or people, so there would be **no impact**.

XV. Public Services

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 following public services:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Fire protection?				X
b) Police protection?				X
c) Schools?				X
d) Parks?				X
e) Other public facilities?				X

Discussion

- a) The Central Fire District of Santa Cruz County (CFD) provides service to the project alignment. The CFD services the communities of Live Oak, Soquel, Capitola, Aptos, Rio Del Mar, and La Selva Beach. The CFD has seven stations and 120 active employees (CFD 2022). The project would be served by Station 4 at 405 Capitola Avenue in Capitola, approximately 250 feet north of the rail corridor. Bluff stabilization and roadway improvements would not materially alter uses of the site, and therefore would not result in a change in demand for fire protection services. The project would not require the provision of or need for new or physically altered facilities to continue to serve the project site. Emergency access would remain available on Cliff Drive during construction. Therefore, the project would have **no impact** to fire protection services.
- b) Police protection is provided by the Capitola Police Department (CPD). The Project corridor would be served by the police station at 422 Capitola Avenue in Capitola, approximately 200 feet northwest of the roadway. As discussed for fire, above, the project would be for bluff stabilization and roadway improvement, and access would continue to be provided during construction. Therefore, the project would not increase the need for police services or facilities and would have **no impact** on police services.
- c) The proposed bluff stabilization and roadway improvement project would not increase the population or otherwise increase demands for school services. It would not alter the capacity of students at any school. Therefore, the project would have **no impact** on schools.
- d) The Capitola Parks Division manages eight parks within the City. Additionally, the Public Works Department maintains and operates all City-owned facilities, including the Jade

Street Park and Community Center, near 47th Street and Cliff Drive. As described above, the proposed project would not result in an increase in residents and therefore, would not increase demand for any parks facilities from additional residents. For this reason, the project would be expected to have **no impact** on recreational facilities

- e) No other public facilities would be required by the proposed project. Therefore, the project would have **no impact** on other facilities.

XVI. Recreation

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that physical deterioration of the facility would occur or be accelerated?				X
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?			X	

Discussion

- a) As described in response to question d) under Public Services, above, the project would not result in additional use on existing neighborhood or regional parks and recreational facilities. Therefore, **no impact** would occur.
- b) The project includes bluff stabilization and roadway improvements and would not require the construction or expansion of recreational facilities. There is minimal recreational use of the rocky areas below the bluff. Therefore, this impact would be **less than significant**.

XVII. Transportation/Traffic

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit roadways, pedestrian and bicycle facilities?				X
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (vehicle Miles traveled)?			X	
c) Substantially increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
d) Result in inadequate emergency access?			X	

Discussion

- a) The project's conformance with applicable plans and policies is shown in Table LU-1, in the Land Use Section of this Initial Study. As shown in that table, the project would not conflict with program, plan, ordinance or policy addressing the circulation system, including transit roadways, pedestrian and bicycle facilities. Therefore, the project would have **no impact** with respect to any such plan or policy, or underlying circulation systems.
- b) With the passage of Senate Bill SB 743 in 2013 and full implementation on July 1, 2020, Vehicle Miles Traveled (VMT) became the main metric to evaluate transportation impacts of proposed development projects. Traffic LOS and parking deficiencies are no longer considered significant impacts in CEQA analysis. With SB 743, most development projects need to provide a VMT analysis to determine traffic impacts. However, there are several exceptions. These include small projects that generate fewer than 110 daily trips; locally serving retail and similar land uses; and locally serving public facilities such as public schools and parks.

As discussed above, the project is bluff stabilization and roadway reconstruction that would not result in additional or more intensive activities at the site that would change the current traffic circulation patterns and operations in the area. Project construction would involve 6-10 workers, who would generate far fewer than 110 trips per day. According to the Governor's Office of Planning and Research (Technical Advisory on Evaluating Transportation Impacts in CEQA, April 2018), both small projects and local-serving public facilities are presumed to have a **less-than-significant** impact on VMT. The project would be a small project on locally serving public facility lands. Therefore project VMT impacts would **be less than significant**.

- c, d) Cliff Drive would have the same number of lanes as at present. In addition, bicycle traffic hazards would be reduced with the Class 1 Bike lane as compared with the current Class 2 lanes. The proposed project would not alter any roadways and therefore would not introduce new design features or other changes that are incompatible with the existing transportation infrastructure or otherwise adversely affect emergency access, and it would not create any traffic hazards. The project would not add new permanent driveways or parking, nor would it generate any post-construction traffic. No detours (which could involve hazardous conditions) would occur during project construction.

Construction traffic on local roadways would be minimal, with up to 10 workers on site at any one time, and deliveries would be episodic as each work stage progresses (see Tables 3-5 in the Project Description for work periods and materials that would be delivered to the site). During construction, the roadway would remain open but with periodic lane closures with flag-people. Some delays may occur during certain construction operations but provisions would be included to assure emergency access in a Construction Traffic Management Plan (which would be reviewed by the local police and fire departments). Therefore, the emergency access impacts of the project would be **less than significant**.

XVIII. Tribal Cultural Resources

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

Background

Tribal Consultation

On May 1, 2024, Albion contacted the Native American Heritage Commission (NAHC) regarding the Sacred Lands File (SLF) and to obtain a list of Native American Tribes and their representatives to consult on the Project as per Section 106 of NHPA. On May 7, 2024, Albion received the contact list from the NAHC and initiated communication with the Tribal Representatives on May 27, 2024, by sending a Section 106 consultation request letter. Follow-up communications were conducted via email on June 14, 2024, and through phone calls on July 1, 2024.

In response to the initial outreach effort, an email was received on May 29, 2024, from Samuel

Rodriguez, representing Desiree Munoz and Carla Munoz of the Costanoan Rumsen Carmel Tribe. Mr. Rodriguez conveyed their interest in engaging in government-to-government consultation regarding this Project and requested the contact information for the City of Capitola. Albion replied via email on May 30, 2024, providing the contact details for Kailash Mozumder, the Public Works Manager for the City of Capitola.

Follow-up emails were sent to all other stakeholders on June 14, 2024. On June 19, 2024, an email reply was received by Shelby Brown on the behalf of Irene Zwierlein of the Amah Mutsun Tribal Band of San Juan Bautista. In this response, she suggested the following recommendations if any positive cultural or historic sensitivity is identified within one mile of the Project Area: 1) cultural resource sensitivity training be conducted; and 2) a qualified archaeologist and Native American monitor be present during any earth movement.

On July 1 and July 3, 2024, Albion Anthropologist Dr. James Sarmiento made follow-up phone calls to all individuals who had not responded to previous email requests. During the call on July 3, Dr. Sarmiento spoke with both Chair Lopez and Vice-Chair Ketchum of the Amah Mutsun Tribal Band. Both representatives expressed their desire to stay informed about any changes to the Project as they occur. The Tribe's cultural preservation officer will reach out to the City to provide additional information and coordinate efforts as the Project progresses.

In February 2025, Albion invited Tribal representatives to attend in-field or virtual meetings. At this time the Tribes received additional Project information including a revised APE map, an updated project description, and Albion's initial cultural resources report. On February 11, 2025, Amah Mutsun Tribal Band Tribal Representatives, Chairman Valentin Lopez and Alec Apodaca, met with Robert Stevens (CSWST), James Sarmiento (Albion), and Kailash Mozumder (City of Capitola) at the Project site location to discuss the Project. Representatives emphasized the importance of having Tribal Monitors present during ground-disturbing activities in areas where cultural resources may be at risk. They also highlighted the necessity of cultural sensitivity training. Tribal representatives expressed a strong desire to restore the area using native plants and indicated their potential capacity to assist with planting and seed gathering. Furthermore, they highlighted the opportunity to develop additional historical signage that could complement other nearby projects, thereby enhancing the historical tourism aspect of this initiative and others.

On March 10th, 2025, Tribal Representatives Samuel Rodriguez and Henry Munoz of the Costanoan Rumsen Carmel Tribe met virtually with Dr. Sarmiento and Jennifer Farquhar (Albion) to discuss Project details. Similar to the Amah Mutsun, they emphasized the necessity of having Tribal Monitors on site during ground-disturbing activities in areas where cultural resources could potentially be impacted, along with the need for cultural sensitivity training. They also expressed a desire to see the area restored with native plants. Additionally, the Tribal Representatives requested contact information for the City should they wish to continue consultations as the Project progresses.

Discussion

- a) i., ii. As described above, AB-52 consultation has been undertaken by Albion and the City of Capitola staff. As described in the Cultural Resources section of this IS/MND, the site contains significant tribal cultural resources that could be adversely affected by project ground disturbance. Mitigation Measure CULT-1 would address Tribal requests for monitoring. Mitigation Measures CULT 1 and CULT 2 in the Cultural Resources section of this IS/MND also would reduce **potentially significant cultural resources impacts** to a **less-than-significant level**.

XIX. Utilities and Service Systems

Would the Project:

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

Background

The project roadway alignment includes underground sewer and water lines.

Discussion

a, b, c) The project would not relocate or otherwise alter any existing underground utilities beneath Cliff Drive. Roadway work would be limited to grinding the existing pavement and placing an asphalt overlay. Grading would not exceed four inches in depth. Minimal water would be required by the project, mostly for dust control for roadway work. No sewage would be generated by the project other than from portable toilets for workers during construction. Therefore, this impact would be **less than significant**.

d, e) Because the project would be primarily a bluff stabilization and roadway re-surfacing, there would be no increase in solid waste generation as a result of project operation. Solid

waste also would be generated during the clearing and grubbing. Minimal off-haul of materials is anticipated. Small quantities of solid wastes would be generated by project construction workers. Therefore, this impact would be **less than significant**.

XX. Wildfire Hazards

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

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X

Discussion

- a, b) The project is on and adjacent to a cliff separating a residential area from the Pacific Ocean. The site itself consists of an existing roadway and semi-barren oceanside bluff. In the long term, the project would enhance emergency access. During construction, one lane would remain open at all times and a Construction Traffic Management Plan would be implemented, after review and approval by local police and fire agencies. The project would not introduce any new fire hazards. Therefore, the project would have a **less-than-significant** impact with respect to wildfire hazards.
- c, d) The project would be a bluff stabilization and roadway renovation, and would not require any additional fire protection infrastructure or fuel breaks. The project would not construct any new structures or otherwise expose people or structures to post-fire land instability or runoff issues. Therefore, the project would have a **less-than-significant** impact with respect to these wildfire hazards.

IV. MANDATORY FINDINGS OF SIGNIFICANCE

Environmental Issue	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact
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 an endangered, rare or threatened species or eliminate important examples of the major periods of California history or prehistory?		X		
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?			X	
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

- a) Compliance with the mitigation measures for the unearthing of any unknown human burials would ensure all potential impacts associated with archaeological resources would be reduced to a **less-than-significant** level. Potentially significant impacts on biological resources would be mitigated to **less than significant** with measures included in this document.
- b) A proposed regional trail project is proposed adjacent to the project alignment. Construction of that project may overlap construction of this project. However, the focus of the proposed project work would be on the bluff face and base, while the trail work would be adjacent to the northern lane of Cliff Drive, where only minor work is proposed. In addition, both projects would incorporate BMPs and mitigation measures to minimize their impacts. Cumulative noise, dust, lighting, and biological resources impacts would be minimal and the project's impact would not be cumulatively considerable. Therefore, cumulative impacts would be **less than significant**.
- c) The proposed project would not increase long-term air pollutant emissions and greenhouse gases because it would not add any new workers or residents. The project's noise impacts also would be **less than significant**. The project's hazards to human health and safety would be **less than significant**, as described in Section VIII of this Initial Study.

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APPENDIX A: SPECIAL STATUS SPECIES TABLES

Special Status Plants

Name	Status	Habitats	Potential to Occur within Project Area	Recommended Action
<i>Agrostis blasdalei</i> Blasdale's bent grass	Rank 1B.2	Coastal bluff scrub, coastal dunes, and coastal prairie.	Low. Marginal suitable coastal bluff scrub habitat within Project Area. However, habitat is limited, disturbed, and threatened by invasive grasses.	No further action recommended.
<i>Aphyllon robbinsii</i> Robbins' broomrape	Rank 1B.1	Coastal bluff scrub, growing at elevations from 0 to 100 meters. Rocky or sandy soil on bluffs, cliffs, landslides.	Low. Although suitable habitat within Project Area is present within coastal bluff scrub, habitat is fragmented, disturbed and isolated. Closest known occurrence is over 10.9 miles from the Project Area.	No further action recommended.
<i>Amsinckia lunaris</i> Bent-flowered fiddleneck	Rank 1B.2	Chaparral, closed-cone coniferous forest, lower montane coniferous forest, coastal bluff scrub.	Low. Although suitable habitat within coastal bluff scrub, species is more associated in open, grassy areas with rich soils within Santa Cruz County. Species not observed within Project Area during botanical surveys conducted by ECI in 2024.	No further action recommended.
<i>Anomobryum julaceum</i> slender silver moss	Rank 4.2	Broad-leaved upland forest, lower montane coniferous forest, and North Coast coniferous forest.	None. No suitable forest habitat present in Project Area.	No further action recommended.
<i>Arenaria paludicola</i> Marsh sandwort	FE, CE, Rank 1B.1	Marshes and swamps. Can grow in dense mats of reeds, cattails, rushes, and bulrushes.	None. No suitable marsh or swamp habitat present in Project Area.	No further action recommended.
<i>Arctostaphylos andersonii</i> Anderson's manzanita	Rank 1B.2	Broadleaved upland forest, chaparral, north coast coniferous forest. Open sites, redwood forest.	None. No suitable forest or chaparral habitat present in Project Area. No <i>Arctostaphylos</i> was not observed in the Project Area during the site visit.	No further action recommended.

Name	Status	Habitats	Potential to Occur within Project Area	Recommended Action
<i>Arctostaphylos hookeri</i> spp. <i>Hookeri</i> Hooker's manzanita	FS, Rank 1B.2	Chaparral, coastal scrub, closed-cone coniferous forest, cismontane woodland.	None. No suitable chaparral or forest habitat present in Project Area. No <i>Arctostaphylos</i> was not observed in the Project Area during the site visit.	No further action recommended.
<i>Arctostaphylos pajaroensis</i> Pajaro manzanita	FS, Rank 1B.1	Chaparral, sandy soils.	None. No suitable chaparral habitat present in Project Area. No <i>Arctostaphylos</i> was not observed in the Project Area during the site visit.	No further action recommended.
<i>Arctostaphylos silvicola</i>) Bonny Doon manzanita	Rank 1B.2	Chaparral, closed-cone coniferous forest, lower montane coniferous forest.	None. No suitable chaparral or forest habitat present in Project Area. No <i>Arctostaphylos</i> was not observed in the Project Area during the site visit.	No further action recommended.
<i>Astragalus agnicidus</i> Humboldt County milk-vetch	CE, Rank 1B.1	Disturbed sites, follows post-fire. Broad-leaved upland forest, and North Coast coniferous forest.	None. No suitable forest habitat present in Project Area.	No further action recommended.
<i>Calyptridium parryi</i> var. <i>hesseae</i> Santa Cruz Mountains pussypaws	Rank 1B.1	Found on sandy soils within chaparral and woodland foothills. 600-1050m.	None. No suitable chaparral or woodland habitat present in Project Area.	No further action recommended.
<i>Carex comosa</i> bristly sedge	Rank 2B.1	Marshes and swamps, coastal prairie, valley and foothill grassland. Lake margins, wet places.	None. No suitable marsh or swamp habitat present in Project Area. Seep habitat within Project Area not likely to support species due to its size and encroachment of non-native species.	No further action recommended.

Name	Status	Habitats	Potential to Occur within Project Area	Recommended Action
<i>Carex saliniformis</i> deceiving sedge	Rank 1B.2	Coastal prairie, coastal scrub, meadows and seeps, marshes and swamps (coastal salt). Mesic sites.	None. No suitable habitat present in Project Area. Seep habitat within Project Area not likely to support species due to its size and encroachment of non-native species.	No further action recommended.
<i>Ceanothus ferrisiae</i> Coyote ceanothus	FE, Rank 1B.1	Grows in arid slopes in serpentine chaparral, valley, and bunchgrass foothill grasslands below 300m.	None. No suitable serpentine soils present in Project Area.	No further action recommended.
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	Rank 1B.1	Valley and foothill grasslands. Also found in terraces, swales, floodplains, and disturbed sites. 0-230m.	None. No suitable grassland habitat present in Project Area.	No further action recommended.
<i>Chorizanthe pungens</i> var. <i>hartwegiana</i> Ben Lomond spineflower	FE, Rank 1B.1	Lower montane coniferous forest. Zayante coarse sands in maritime ponderosa pine sandhills.	None. No suitable forest habitat present in Project Area.	No further action recommended.
<i>Chorizanthe pugens</i> var. <i>pugens</i> Monterey spineflower	FT, Rank 1B.2	Coastal dunes, chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Sandy soils in coastal dunes or more inland within chaparral or other habitats.	None. No suitable dune or chaparral habitat present in Project Area. Species not observed within Project Area.	No further action recommended.
<i>Chorizanthe robusta</i> var. <i>hartwegii</i> Scott's valley spineflower	FE, Rank 1B.1	Grassland on sandstone outcrops; known only from Scotts Valley area.	None. No suitable habitat sandstone outcrops in Project Area and outside of known range.	No further action recommended.

Name	Status	Habitats	Potential to Occur within Project Area	Recommended Action
<i>Chorizanthe robusta</i> var. <i>robusta</i> robust spineflower	Rank 1B.1	Endemic to sandy ultramafic soils in central California. Currently found in Santa Cruz and Monterey Counties. Meadows, valley grassland, coastal scrub.	None. No suitable serpentine substrate present in Project Area.	No further action recommended.
<i>Clarkia concinna</i> ssp. <i>automiza</i> Santa Clara red ribbons	Rank 4.3	Occurs within chaparral and cismontane woodland. 90-1500m.	None. No suitable chaparral or woodland habitat present in Project Area.	No further action recommended.
<i>Collinsia multicolor</i> San Francisco collinsia	Rank 1B.2	Closed-cone coniferous forest, coastal scrub. On decomposed shale (mudstone) mixed with humus; sometimes on serpentine. 10-275 m.	None. No suitable soils present in Project Area.	No further action recommended.
<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i> seaside bird's-beak	CE, Rank 1B.1	Chaparral (maritime), cismontane woodland, closed-cone coniferous forest, coastal dunes, and coastal scrub.	None. No suitable habitat present in Project Area. Closest known occurrence is over 12 miles from the Project Area.	No further action recommended.
<i>Dacryophyllum falcifolium</i> tear drop moss	Rank 1B.3	North coast coniferous forest. Limestone substrates and rock outcroppings.	None. No suitable limestone substrates present in Project Area.	No further action recommended.
<i>Eastwoodiella californica</i> Swamp harebell	Rank 1B.2	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, freshwater marsh, north coast coniferous forest. Bogs and marshes in a variety of habitats; uncommon when it occurs.	None. No suitable habitat present in Project Area. Seep habitat within Project Area not likely to support species due to its size and encroachment of non-native species.	No further action recommended.
<i>Eriogonum nudum</i> var. <i>decurrens</i> Ben Lomond buckwheat	Rank 1B.1	Sandy; chaparral, cismontane woodland, lower montane coniferous forest.	None. No suitable chaparral or woodland habitat present in Project Area.	No further action recommended.

Name	Status	Habitats	Potential to Occur within Project Area	Recommended Action
<i>Erysium ammophilum</i> sand-loving wallflower	Rank 1B.2	Chaparral (maritime), coastal dunes, and coastal scrub.	None. No suitable dune habitat present in Project Area. Coastal scrub habitat within Project Area unlikely to support species due to disturbance and size of habitat.	No further action recommended.
<i>Erysimum teretifolium</i> Santa Cruz wallflower	FE, CE, Rank 1B.1	Lower montane coniferous forest, chaparral. Inland marine sands.	None. No suitable forest or chaparral habitat present in Project Area.	No further action recommended.
<i>Fissidens pauperculus</i> minute pocket moss	Rank 1B.2	North coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and on-stream banks.	None. No suitable forest habitat present in Project Area.	No further action recommended.
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i> Monterey gilia	FE, CT, Rank 1B.2	Chaparral (maritime), cismontane woodland, coastal dunes, and coastal scrub.	None. No suitable chaparral, dune, or woodland habitat present in Project Area.	No further action recommended.
<i>Hesperocyparis abramsiana</i> var. <i>abramsiana</i> Santa Cruz cypress	FT, SE, Rank 1B.2	Chaparral, closed-cone coniferous forest, and lower montane coniferous forest.	None. No suitable chaparral or forest habitat present in Project Area.	No further action recommended.
<i>Hoita strobilina</i> Loma Prieta hoita	Rank 1B.1	Found in chaparral and woodland habitat, often on serpentine soils in the Santa Cruz Mountains, Mt Diablo and Mt Hamilton mountain ranges.	None. No suitable serpentine soils present in Project Area. Outside of known range.	No further action recommended.
<i>Holocarpha macradenia</i> Santa Cruz tarplant	FT, CE, Rank 1B.1	Coastal prairie, coastal scrub, valley and foothill grassland. Light, sandy soil and sandy clay; often with nonnatives.	Low. Although coastal scrub may provide marginal habitat, habitat within Project Area is disturbed, isolated, and small and not anticipated to support species.	No further action recommended.

Name	Status	Habitats	Potential to Occur within Project Area	Recommended Action
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	Rank 1B.1	Closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral. Old dunes, coastal sandhills' openings. Sandy and gravelly soils.	None. No suitable forest, dune, or chaparral habitat present in Project Area. Coastal scrub habitat within Project Area unlikely to support species due to disturbance.	No further action recommended.
<i>Horkelia marinensis</i>) Point Reyes horkelia	Rank 1B.2	Coastal dunes, coastal prairie, coastal scrub. Sandy flats and dunes near coast; in grassland or scrub plant communities.	None. No suitable habitat present in Project Area. Coastal scrub habitat within Project Area unlikely to support species due to disturbance and size of habitat.	No further action recommended.
<i>Lasthenia californica</i> ssp. <i>Macrantha</i> perennial goldfields	FS, Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. Potentially present in coastal bluff scrub.	Low. Although marginal habitat is present within coastal bluff scrub and coastal scrub, habitats within Project Area are disturbed and small. No confirmed occurrences within Santa Cruz County as of 2013. Species not observed within Project Area during botanical surveys conducted by ECI in 2024.	No further action recommended.
<i>Lessingia micradenia</i> var. <i>glabrata</i> smooth lessingia	Rank 1B.2, HPC	Endemic to Santa Clara County. Found in serpentine within chaparral, cismontane woodland, and grassland. Often on gravelly roadcuts.	None. No suitable habitat present in Project Area. Outside of known range.	No further action recommended.
<i>Malacothamnus arcuatus</i> arcuate bush-mallow	Rank 1B.2	Chaparral, cismontane woodland. Gravelly alluvium. 1-735 m.	None. No suitable chaparral or woodland habitat present in Project Area.	No further action recommended.
<i>Malacothamnus hallii</i> Hall's bush-mallow	Rank 1B.2	Endemic to chaparral within the San Francisco Peninsula.	None. No suitable chaparral habitat present in Project Area.	No further action recommended.

Name	Status	Habitats	Potential to Occur within Project Area	Recommended Action
<i>Microseris paludosa</i> marsh microseris	FS, Rank 1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland.	None. No suitable forest, grassland, or woodland habitat present in Project Area.	No further action recommended.
<i>Monardella sinuate</i> ssp. <i>nigrescens</i> Northern curly-leaved monardella	Rank 1B.2	Coastal dunes, coastal scrub, chaparral, lower montane coniferous forest, sandy soils.	None. No suitable soils present in Project Area. Coastal scrub habitat within Project Area unlikely to support species due to disturbance and size of habitat.	No further action recommended.
<i>Monolopia gracilens</i> woodland woollythreads	Rank 1B.2	Chaparral, valley and foothill grassland, cismontane woodland, broadleaved upland forest, north coast coniferous forest. Grassy sites, in openings; sandy to rocky soils. Often seen on serpentine after burns, but may have only weak affinity to serpentine. 120-975 m.	None. No suitable serpentine soils present in Project Area.	No further action recommended.
<i>Penstemon rattanii</i> var. <i>kleei</i> Santa Cruz Mountains beardtongue	Rank 1B.2	Chaparral, lower montane coniferous forest, North Coast coniferous forest. 400-1100m. Endemic to Santa Cruz Mountains.	None. No suitable forest habitat present in Project Area. Outside of known range.	No further action recommended.
<i>Pentachaeta bellidiflora</i> White-rayed pentachaeta	FE, SE, Rank 1B.2	Valley and foothill grassland, cismontane woodland. Open dry rocky slopes and grassy area, often on soils derived from serpentine bedrock.	None. No suitable serpentine soils present in Project Area.	No further action recommended.
<i>Piperia candida</i> white-flowered rein orchid	Rank 1B.2	Broad-leafed upland forest, lower montane coniferous forest, and North Coast coniferous forest.	None. No suitable forest habitat present in Project Area.	No further action recommended.

Name	Status	Habitats	Potential to Occur within Project Area	Recommended Action
<i>Piperia yadonii</i> Yadon's rein orchid	FE, Rank 1B.1	Chaparral (maritime), closed-cone coniferous forest, and coastal bluff scrub.	None. No suitable habitat present in Project Area. Coastal scrub habitat within Project Area unlikely to support species due to disturbance and size of habitat.	No further action recommended.
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcornflower	Rank 1B.2	Chaparral, coastal scrub, coastal prairie. Mesic sites.	None. No suitable chaparral or prairie habitat present in Project Area.	No further action recommended.
<i>Plagiobothrys diffusus</i> San Francisco popcornflower	CE Rank 1B.1	Valley and foothill grassland, coastal prairie. Historically from grassy slopes with maritime influence.	None. No suitable grassland or prairie habitat present in Project Area.	No further action recommended.
<i>Polygonum hickmanii</i> Scott's valley polygonum	FE, CE, Rank 1B,1	Meadows and seeps, valley and foothill grassland, mudstone and sandstone outcrops.	None. No suitable mudstone or sandstone outcrops present in Project Area.	No further action recommended.
<i>Prediculis dudleya</i> Dudley's lousewort	CR, Rank 1B.2	Chaparral, cismontane woodland, North Coast coniferous forest, valley and foothill grassland. Deep shady woods of older coast redwood forests; also, in maritime chaparral.	None. No suitable chaparral, woodland, or grassland habitat present in Project Area.	No further action recommended.
<i>Senecio aphanactis</i> chaparral ragwort	Rank 1B.2	Found in dry coastal areas. Coastal sage scrub, foothill oak woodland, alkali flats, and valley grassland.	None. No suitable sage scrub, woodland, or grassland habitat present in Project Area.	No further action recommended.
<i>Sidalcea malachroides</i> Maple-leaved checkerbloom	Rank 4.2	Broad-leaved upland forest, coastal prairie, coastal scrub, north coast coniferous forest, riparian forest. Woodlands and clearing near coast; often in disturbed area.	None. No suitable woodland or forest habitat present in Project Area.	No further action recommended.

Name	Status	Habitats	Potential to Occur within Project Area	Recommended Action
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	Rank 1B.2	Broad—leafed uplands forest, chaparral, closed-cone coniferous forest, coastal prairie, coastal scrub, and valley and foothill grassland.	None. No suitable forest, chaparral or prairie habitat present in Project Area. Coastal scrub within Project Area not likely to support species.	No further action recommended.
<i>Trifolium buckwestiorum</i> Santa Cruz clover	Rank 1B.1	Broadleaved upland forest, cismontane woodland, coastal prairie. 105-610m.	None. No suitable forest or woodland habitat present in Project Area.	No further action recommended.
<i>Trifolium hydrophilum</i> saline clover	Rank 1B.2	Coastal prairie, broad-leafed upland forest, cismontane woodland. Moist grassland. Gravelly margins.	None. No suitable coastal prairie or forest habitat present in Project Area.	No further action recommended.
<i>Trifolium polyodont</i> Pacific Grove clover	CR, Rank 1B.1	Closed-cone coniferous forest, coastal prairie, meadows and seeps, and valley and foothill grassland.	None. No suitable forest or prairie habitat present in Project Area. Seep habitat within Project Area not likely to support species due to its size and encroachment of non-native species.	No further action recommended.

Special Status Wildlife

Name	Status	Habitats	Potential to Occur	Recommended action
Amphibians				
<i>Ambystoma californiense</i> California tiger salamander - central California DPS	FT, ST, WL	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	None. No suitable breeding habitat or burrows present within Project Area. CTS highly unlikely to aestivate within Project Area due to habitat fragmentation.	No further action recommended.
<i>Ambystoma macrodactylum croceum</i> Santa Cruz long-toed salamander	FE, SE, FP	Occurs in coastal woodlands and upland chaparral near ponds and freshwater marshes in which it breeds. Spends a significant portion of life underground in burrows of small mammals such as mice, gophers, and moles. Can also be found among the roots of plants in upland and wooded areas. November-December, the breeding migration begins from upland habitat to breeding ponds.	None. No suitable breeding habitat or burrows present within Project Area. No woodland or upland chaparral habitat present within Project Area.	No further action recommended.
<i>Aneides niger</i> Santa Cruz black salamander	SSC	Mixed deciduous and coniferous woodlands and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara Counties. Adults found under rocks, talus, and damp woody debris.	Low. Limited habitat within Project Area in coastal scrub. Habitat is fragmented and disturbed.	No further action recommended.
<i>Dicamptodon ensatus</i> California giant salamander	SSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	None. No suitable breeding habitat or freshwater sources present within Project Area.	No further action recommended.
<i>Rana boylei</i> foothill yellow-legged frog	PT, SE, SSC, HPC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	None. No suitable breeding habitat or streams present within Project Area.	No further action recommended.

Name	Status	Habitats	Potential to Occur	Recommended action
<i>Rana draytonii</i> California red-legged frog	FT, SSC, HPC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	None. No suitable breeding habitat or streams present within Project Area.	No further action recommended.
Arachnids				
<i>Fissilicreagris imperialis</i> Empire Cave pseudoscorpion	None	Lives in caves in Cave Gulch, rely on the stable, high-humidity, and cool environment deep within limestone caves.	None. Project Area located outside of known range.	No further action recommended.
<i>Meta dolloff</i> Dolloff Cave spider	None	Found in caves in the Empire Cave System and in Gray Whale Ranch State Park. Reproduce and exist outside of caves in other subterranean habitats such as railroad tunnels and human-dug soil pits.	None. Project Area located outside of known range.	No further action recommended.
Birds				
<i>Agelaius tricolor</i> Tricolored blackbird	ST, SSC, BCC	Found primarily in the Central Valley. Nests over or near freshwater emergent riparian thickets or agricultural fields. Highly colonial and breeds in large colonies.	Low. No freshwater habitat present in Project Area. Adjacent willow scrub present in Project Area too small and fragmented to support large colonies.	No further action recommended.
<i>Anarhynchus nivosus nivosus</i> western snowy plover	SSC	Forage in the wet sand and amidst surf-cast kelp in the intertidal zone and in dry, sandy areas above the high tide. In winter, found on the beaches used for nesting as well as estuarine sand and mud flats.	None. No suitable mudflat or upland sand habitat present within Project Area.	No further action recommended.
<i>Aquila chrysaetos</i> golden eagle	FP,WL	Distributed throughout North America. Inhabits forests, canyons, shrub lands, grasslands, and oak woodlands. Nests on platforms on steep cliffs or in large trees.	None. No suitable nesting habitat present within Project Area.	No further action recommended.

Name	Status	Habitats	Potential to Occur	Recommended action
<i>Ardea herodias</i> great blue heron	SSC	Resident throughout California; in shallow estuaries and fresh and saline emergent wetlands. Less common along riverine and rocky marine shores, croplands, pastures, and in mountains above foothills.	None. No suitable nesting habitat present within Project Area.	No further action recommended.
<i>Asio flammeus</i> Short-eared owl	SSC	Widespread winter migrant, found primarily in the Central Valley, in the western Sierra Nevada foothills, and along the coastline. Found in open areas with few trees, such as annual and perennial grasslands, prairies, dunes, meadows, irrigated lands, and saline and fresh emergent wetlands. Requires dense vegetation; tall grasses, brush, ditches, and wetland for resting and roosting cover.	None. No dense vegetation present within Project Area.	No further action recommended.
<i>Astur cooperii</i> Cooper's hawk	SSC	Dense stands of live oak, riparian deciduous, or other forest habitats near water. Seldom found in areas without dense tree stands, or patchy woodland habitat. Nesting and foraging occur near open water or riparian vegetation.	None. No suitable woodland or riparian habitat present within Project Area.	No further action recommended.
<i>Athene cunicularia</i> burrowing owl	CE, SSC	Resides in wide-open, sparsely vegetated areas like prairies, deserts, grasslands, and agricultural fields. Range extends from the tip of South America to Canada. Permanent resident in California.	None. No suitable open habitat present within Project Area.	No further action recommended.
<i>Brachyramphus marmoratus</i> Marbled murrelet	FE	Marine subtidal and pelagic habitats. Partial to coastlands with stand of mature redwood and Douglas-fir, uses trees for nesting and roosting. Can be found on surface of shallow coastal waters close to shore.	None. No suitable old growth trees present within Project Area.	No further action recommended.
<i>Coturnicops noveboracensis</i> Yellow rail	SSC	Nests in grassy marshes and meadows. Typically, in fresh or brackish marsh with water no more than a foot deep.	None. No suitable marsh or meadow habitat present within Project Area.	No further action recommended.
<i>Cypseloides niger</i> black swift	SSC	Nests on cliffs near water, beside or behind waterfalls, and in sea caves. Known breeding range in Santa Cruz County.	None. No waterfalls or sea caves within the Project Area.	No further action recommended.

Name	Status	Habitats	Potential to Occur	Recommended action
<i>Elanus leucurus</i> white-tailed kite	FP	Permanent residents found commonly along the coast and inland parts of California. Found in low elevation grasslands, open woodlands, savannas, marshes, wetlands, and agricultural fields. Nests in the upper third of trees.	None. No suitable grassland or woodland habitat present within Project Area.	No further action recommended.
<i>Falco peregrinus anatum</i> American peregrine falcon	FP	Breeding habitats include a variety of cliffs in uninhabited areas to tall buildings or bridges within urban landscape. Found in open country, cliffs; often near water, especially along the coast and migrants may fly far out to sea.	Low. Limited breeding habitat present within Project Area; may occasionally be present within Project Area as a forager.	Conduct nesting bird surveys prior to construction.
<i>Laterallus jamaicensis coturniculus</i> California black rail	SSC	Found in saline, brackish, and fresh emergent wetlands. Commonly in tidal emergent wetlands dominated by pickleweed. In freshwater, usually found in bulrushes, cattails, and saltgrass. Within immediate vicinity of tidal sloughs.	None. No suitable wetland habitat present within Project Area.	No further action recommended.
<i>Pandion haliaetus</i> osprey	SSC	Uses large trees, snags, and dead-topped trees in open forest habitats for cover and nesting. Nests on platform of sticks at the top of large snags, dead-topped trees, on cliffs, or on human made structures. Associated strictly with large, fish-bearing waters, primarily in ponderosa pine through mixed conifer habitat.	None. No suitable nesting habitat present within Project Area.	No further action recommended.
<i>Rallus obsoletus obsoletus</i> California Ridgeway's rail	SSC	Lives in saltwater marshes, freshwater marshes, and mangrove swamps. Often bathes in shallow pools at low tide.	None. No suitable marsh habitat present within Project Area.	No further action recommended.

Name	Status	Habitats	Potential to Occur	Recommended action
<i>Riparia riparia</i> Bank swallow	SSC	Found primarily in riparian and other lowland habitats in California west of the deserts during the spring-fall period. In summer, restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils, into which it digs nesting holes. Uses holes dug in cliffs and river banks for cover. Will roost on logs, shoreline vegetation, and telephone wires.	Low. Although cliff bluff may provide suitable nesting habitat, there is frequent disturbance due to proximity of Cliff Drive and Capitola Wharf. All four occurrences within Santa Cruz County are poorly documented, with last updates in 1987 and possibly extirpated from the area.	Conduct nesting bird surveys prior to construction.
Crustacean				
<i>Linderiella occidentalis</i> California linderiella	SSC	Typically resides in large, deep, vegetated vernal pools in grasslands. Occurring a variety of geological substrates, mainly at elevations between 40-168m. often co-occurs with vernal pool fairy shrimp.	None. No suitable vernal pool habitat present within Project Area.	No further action recommended.
<i>Stygobromus imperialis</i> Empire Cave amphipod	SSC	Inhabits permanent groundwater, aquatic cave pools, and fractured marble bedrock karst landscape. Restricted to subterranean aquatic ecosystems within Empire Cave.	None. No suitable aquatic cave habitat present within Project Area.	No further action recommended.
<i>Stygobromus mackenziei</i> Mackenzie's cave amphipod	SSC	Found strictly in the aphotic zone of Empire Cave on UC Santa Cruz campus. Inhabits pools, small streams, and moist substrates.	None. Project Area is outside of known range.	No further action recommended.
Fish				
<i>Eucyclogobius newberryi</i> tidewater goby	FE, SSC	Found in brackish water lagoons, estuaries, and marshes. Inhabit fresh-saltwater interfaces, upper edges of tidal bays, near the entrance of fresh-water tributaries and in coastal lagoon formed at the mouths of coastal rivers, streams, and seasonally wet canyons.	Low. Nearby fresh-saltwater interfaces adjacent to Project Area may provide habitat. However, unlikely to occur within the intertidal portions of the Project Area due to high wave action and turbidity.	See mitigation measures to avoid impacts to aquatic species.

Name	Status	Habitats	Potential to Occur	Recommended action
<i>Lavinia exilicauda</i> <i>harengus</i> Monterey hitch	SSC	Resides in lowland areas with large pools or in small reservoirs. Distributed in the Pajaro and Salinas river systems.	None. No suitable habitat present within Project Area.	No further action recommended.
<i>Onorhynchus kisutch</i> pop. 4 Coho salmon	FE, SE	Early life is spent growing and feeding in freshwater streams, estuaries, and associated wetland. Remainder of life is spent foraging in the ocean before returning to streams and tributaries where they were born to spawn. Inhabit small coastal streams, as well as larger rivers. Associated with low gradient reaches of tributary streams.	Low. Unlikely to occur within the intertidal portions of the Project Area due to high wave action and turbidity.	See mitigation measures to avoid impacts to aquatic species.
<i>Oncorhynchus mykiss irideus</i> pop. 8 central California coast steelhead	FT, SSC	Naturally spawning populations from Russian River to Aptos Creek. Requires cold and sufficient dissolved oxygen, loose, silt-free, coarse gravel for spawning.	Low. Adults known to inhabit the Pacific Ocean. Unlikely to occur within the intertidal portions of the Project Area due to high wave action and turbidity.	See mitigation measures to avoid impacts to aquatic species.
<i>Oncorhynchus mykiss irideus</i> pop. 9 south - central California coast steelhead	FT, SSC	Naturally spawning populations from Pajaro River to southern edge of San Luis Obispo County. Requires cold and sufficient dissolved oxygen, loose, silt-free, coarse gravel for spawning.	Low. Adults known to inhabit the Pacific Ocean. Unlikely to occur within the intertidal portions of the Project Area due to high wave action and turbidity.	See mitigation measures to avoid impacts to aquatic species.
<i>Spirinchus thaleichthys</i> longfin smelt	FC, ST	Use a variety of habitats from nearshore waters, to estuaries and lower portions of freshwater streams. Adults and juveniles occupy middle or bottom of water column. Prefer waters of below 20 degrees Celsius. Seek out deep channel waters in the summer months.	None. Project Area is outside of known range for species.	No further action recommended.

Name	Status	Habitats	Potential to Occur	Recommended action
<i>Thaleichthys pacificus</i> eulachon	FT, SSC	Juvenile and adults live near the bottom of the ocean. Juveniles found in shallower waters closer to shore than adults. Most frequently found over sandy or muddy bottom types in the ocean. Go up rivers with large spring runoffs for spawning.	Low. Adults known to inhabit the Pacific Ocean. Unlikely to occur within the intertidal portions of the Project Area due to high wave action and turbidity.	See mitigation measures to avoid impacts to aquatic species.
Insects				
<i>Adela oplerella</i> Opler's longhorn moth	SSC	Typically found on creamcups (<i>Platystemon californicus</i>). Geographically ranges between Marin and Santa Cruz counties.	None. No <i>Platystemon californicus</i> seen on site visit.	No further action recommended.
<i>Bombus caliginosus</i> obscure bumble bee	FC	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Low. No suitable roosting habitat present within Project Area. May use Project Area for foraging.	No further action recommended.
<i>Bombus crotchii</i> Crotch's bumble bee	CE	Found between San Diego and Redding, in a variety of habitats including open grasslands, shrublands, chaparral, desert margins, and semi-urban settings. Nests underground in abandoned rodent dens or above ground in tufts of grass, old bird nests, or tree cavities. Fond to milkweed, but also lupines, medics, phacelias, sages, clarkias, and poppies. 0-2438m.	Low. Nearby CNDDDB occurrences are poorly documented. Although Project Area may provide suitable nectar sources, it is outside of its current distribution.	No further action recommended.
<i>Bombus occidentalis</i> western bumble bee	CE	Inhabits wide variety of habitats, including agricultural and urban landscapes. Requires floral resources. Current distribution believed to be restricted in northern Sierra's and Cascade Range. Historically distributed throughout California.	Low. Nearby CNDDDB occurrences are poorly documented. Although Project Area may provide suitable habitat, it is outside of its current distribution.	No further action recommended.

Name	Status	Habitats	Potential to Occur	Recommended action
<i>Bombus pensylvanicus</i> American bumble bee	SSC	Prefers farmlands and open fields, nest below the grass, on surface of the ground, or underground. Forages on vetches (<i>Vicia</i>), clovers (<i>Trifolium</i>), goldenrods (<i>Solidago</i>), St. John's wort (<i>Hypericum perforatum</i>), and boneset (<i>Eupatorium</i>).	Low. Nearby CNDDDB occurrences are poorly documented. Although Project Area may provide suitable habitat, it is outside of its current distribution.	No further action recommended.
<i>Cicindela hirticollis grvida</i> Sandy beach tiger beetle	None	Found in moist, sandy areas, along ocean beaches, lakeshores, riverbanks and sandbars. Prefer open, sparsely vegetated habitats where larvae can burrow into damp sand.	None. Although sand beach habitat is present within Project Area, no known extant populations within Santa Cruz County.	No further action recommended.
<i>Cicindela ohlone</i> Ohlone tiger beetle	FE	Grassland habitats on coastal terrace prairies, containing purple needlegrass, California oatgrass and shallow soil that becomes hard in the summer and softens with winter rain. Adults use sparse grassland for larval burrowing and thermoregulation.	None. No suitable grassland habitat present within Project Area.	No further action recommended
<i>Coelus globosus</i> globose dune beetle	None	Found in dunes and sand hummocks along immediate coast. Larvae and pupae live in the sand. Occasionally, larvae can be found under vegetation or accumulated debris. Adults found under vegetation when temperatures rise, and come to the surface at night when cool and foggy.	None. No suitable dune or sand hummocks habitat present within Project Area.	No further action recommended
<i>Danaus plexippus</i> <i>Plexippus pop. 1</i> monarch – California overwintering population	PT	Milkweed and flowering plants are needed, can be a field, roadside area, open area, wet area, or urban garden. Roost in eucalyptus, Monterey pines and Monterey cypress trees. Can be found in wetlands, grasslands, coastal, mountain, rural and urban areas.	Low. No roosting habitat present within Project Area. May use Project Area for foraging.	No further action recommended
<i>Euphilotes enoptes smithi</i> Smith's blue butterfly	FE	Found along Central Coast California, associated with sand dune habitat. Found from Monterey Bay south to Punta Gorda.	None. No suitable habitat present within Project Area.	No further action recommended

Name	Status	Habitats	Potential to Occur	Recommended action
<i>Lytta moesta</i> moestan blister beetle	None	Grasslands of the Central Valley and foothills of the Sierra Nevada. Sand dune/desert scrub habitat. Adults found on flowers.	None. No suitable habitat present within Project Area.	No further action recommended
<i>Philanthus nasalis</i> Antioch sphecid wasp	SSC	Occupies dune habitats, inland marine sand hills. Found in sand deposits and sand quarries. Nest in sandy ground and fly in the fall.	None. No suitable habitat present within Project Area.	No further action recommended
<i>Polyphylla barbata</i> Mount Hermon June beetle	FE	Larvae are soil dwelling. Associated with sandy soils, primarily in Zayante Sand Hill formations, sand parkland with chaparral and ponderosa pine stands.	None. No suitable habitat present within Project Area.	No further action recommended
<i>Scaphinotus behrensi</i> Behren's snail-eating beetle	SSC	Found in temperate coniferous rainforests, typically in areas with high moistures. Can be found in areas with old-growth redwood forests and similar, humid, mature habitats.	None. No suitable habitat present within Project Area.	No further action recommended
<i>Trimerotropis infantilis</i> Zayante band-winged grasshopper	None	Occur in the sandy areas of the Santa Cruz Mountains, the Zayante sand hills. Primarily active between May and August. Open sparsely vegetated sandy parklands among chaparral or ponderosa pine stands.	None. No suitable habitat present within Project Area.	No further action recommended
Mammals				
<i>Antrozous pallidus</i> pallid bat	SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low. No suitable roosting habitat present within Project Area. May use areas within Project Area for foraging.	Avoid removal of vegetation and trees or conduct pre-construction bat roost surveys.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Low. No suitable roosting habitat present within Project Area. May use areas within Project Area for foraging.	Pre-construction survey for bats recommended.

Name	Status	Habitats	Potential to Occur	Recommended action
<i>Dipodomys venustus venustus</i> Santa Cruz kangaroo rat	None	Silverleaf manzanita mixed chaparral in the Zayante Sandhills ecosystem of the Santa Cruz Mountains. Needs soft, well-drained sand.	None. No suitable habitat present within Project Area.	No further action recommended
<i>Lasiurus cinereus</i> hoary bat	None	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Low. No suitable roosting habitat present within Project Area. May use areas within Project Area for foraging.	Avoid removal of vegetation and trees or conduct pre-construction bat roost surveys.
<i>Microtus californicus halophilus</i> Monterey vole	None	Saltwater wetlands around Moss Landing and Seaside, Monterey County.	None. No suitable habitat present within Project Area.	No further action recommended
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	SSC	Forest habitats of moderate canopy and moderate to dense understory. May prefer chaparral and redwood habitats. Constructs nests of shredded grass, leaves and other material. May be limited by availability of nest-building materials.	Low. Coastal bluff scrub habitat within Project Area provides marginal habitat. However, the habitat is small, isolated and is heavily disturbed.	No further action recommended.
<i>Reithrodontomys megalotis distichlis</i> Salinas harvest mouse	SSC	Salt and brackish marshes strictly near Monterey Bay.	None. No suitable marsh habitat present within Project Area.	No further action recommended.
<i>Sorex ornatus salarius</i> Monterey shrew	SSC	Prefer dense litter or ground cover. Found in patchy, open areas with wet microhabitats like stream banks and damp meadows.	None. No suitable stream bank or meadow habitat present within Project Area.	No further action recommended.
<i>Sorex vagrans paludivagus</i> Monterey vagrant shrew	SSC	Prefer dense litter or ground cover. Found in patchy, open areas with wet microhabitats like stream banks and damp meadows.	None. No suitable stream bank or meadow habitat present within Project Area.	No further action recommended.

Name	Status	Habitats	Potential to Occur	Recommended action
<i>Taxidea taxus</i> American badger	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	None. No suitable friable soils present within Project Area.	No further action recommended
Mollusks				
<i>Margaritifera falcata</i> western pearlshell	WL	Found in perennial, cold-water streams and rivers. Limited to salmonid-bearing streams or rivers as salmon or trout are their host species. Generally, in low-gradient streams with stable sand, gravel, or cobble stream bottoms. Also, in undercut banks to the middle of the stream with the highest flow, or in sheltered areas behind boulders and log jams.	None. No suitable freshwater stream habitat present within Project Area.	No further action recommended.
<i>Tryonia imitator</i> California brackishwater snail	None	Found in brackish salt marshes and estuaries. Prefer salt marshes and coastal lagoons where salinity gradients form due to tidal mixing and freshwater inputs.	None. No suitable salt marsh habitat present within Project Area.	No further action recommended.
Reptiles				
<i>Actinemys marmorata</i> northwestern pond turtle	PT, SSC, HPC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	None. No suitable aquatic habitat present within Project Area.	No further action recommended.
<i>Anniella pulchra</i> Northern California legless lizard	SSC	Sandy or loose organic soils or where large amounts of leaf litter are present. Seek coverage under flat boards, rocks, and burrow near the surface in loose soil.	None. No suitable habitat present within Project Area.	No further action recommended.

Status codes abbreviations:

BCC	Federal Bird of Conservation Concern
FE	Federal Endangered
FT	Federal Threatened
PT	Proposed Federally Threatened
SE	State Endangered
ST	State Threatened
CE	State Candidate Endangered
SSC	CDFW Species of Special Concern
FP	CDFW Fully Protected
WL	CDFW Watch List
Rank 1B.1	CNPS Rank 1B.1: Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California
Rank 1B.2	CNPS Rank 1B.2: Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California
Rank 4.2	CNPS Rank 4.2: Plants of limited distribution; fairly threatened in California

APPENDIX B: NOISE TECHNICAL REPORT

CAPITOLA CLIFF DRIVE RESILIENCY PROJECT

NOISE TECHNICAL REPORT



MARCH 2025

Prepared by:



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CAPITOLA CLIFF DRIVE RESILIENCY PROJECT NOISE TECHNICAL REPORT

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ATTACHMENT

Noise Appendix

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NOISE TECHNICAL REPORT

CAPITOLA CLIFF DRIVE RESILIENCY PROJECT

INTRODUCTION

This report presents the noise analysis for the Capitola Cliff Drive Resiliency Project (project). The project site is in the City of Capitola, Santa Cruz County, California. The project is intended to remediate current bluff erosion and provide resiliency for projected increased erosion associated with climate change/sea-level rise. The project includes both bluff erosion resiliency improvements and a reconstructed Cliff Drive roadway with parking and a new Class 1 pedestrian/bicycle path.

This report provides an overview of existing noise levels measured at the project site, local noise regulatory framework, and an analysis of potential noise impacts that would result from implementation of the project. This report is prepared in a format to answer the noise issues identified in Appendix G of the CEQA Guidelines.

CHECKLIST

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

SETTING

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound pressure level has become the most common descriptor used to characterize the “loudness” of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. Decibels are measured using different scales, and it has been found that A-weighting of sound levels best reflects the human ear’s reduced sensitivity to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. All references to decibels (dB) in this report will be A-weighted unless noted otherwise.

Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are the equivalent A-weighted sound level over a given time period (Leq)¹; average day–night 24-hour average sound level (Ldn)² with a nighttime increase of 10 dB to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL)³, also a 24-hour average that includes both an evening and a nighttime sensitivity weighting. **Table 1** identifies decibel levels for common sounds heard in the environment. With regard to increases in A-weighted noise level, the following relationships occur (Caltrans, 1998a):

- Under controlled conditions in an acoustics laboratory, the trained healthy human ear is able to discern changes in sound levels of 1 dB;
- Outside of such controlled conditions, the trained ear can detect changes of 2 dB in normal environmental noise;
- It is widely accepted that the average healthy ear, however, can barely perceive noise levels changes of 3 dB;
- A change in level of 5 dB is a readily perceptible increase in noise level; and
- A 10-dB change is recognized as twice as loud as the original source.

¹ The Equivalent Sound Level (Leq) is a single value of a constant sound level for the same measurement period duration, which has sound energy equal to the time-varying sound energy in the measurement period.

² Ldn is the day–night average sound level that is equal to the 24-hour A-weighted equivalent sound level with a 10-decibel penalty applied to night between 10:00 p.m. and 7:00 a.m.

³ CNEL is the average A-weighted noise level during a 24-hour day, obtained by addition of 5 decibels in the evening from 7:00 to 10:00 p.m., and an addition of a 10-decibel penalty in the night between 10:00 p.m. and 7:00 a.m.

TABLE 1. TYPICAL NOISE LEVELS

Noise Level (dB)	Outdoor Activity	Indoor Activity
90+	Gas lawn mower at 3 feet, jet flyover at 1,000 feet	Rock Band
80-90	Diesel truck at 50 feet	Loud television at 3 feet
70-80	Gas lawn mower at 100 feet, noisy urban area	Garbage disposal at 3 feet, vacuum cleaner at 10 feet
60-70	Commercial area	
40-60	Quiet urban daytime, traffic at 300 feet	Large business office, dishwasher next room
20-40	Quiet rural, suburban nighttime	Concert hall (background), library, bedroom at night
10-20		Broadcast / recording studio
0	Lowest threshold of human hearing	Lowest threshold of human hearing

Source: (modified from Caltrans Technical Noise Supplement, 1998)

NOISE ATTENUATION

Stationary point sources of noise, including construction equipment, attenuate (lessen) at a rate of 6 to 7.5 dB per doubling of distance from the source, depending on ground absorption. Soft sites attenuate at 7.5 dB per doubling because they have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees. Hard sites have reflective surfaces (e.g., parking lots or smooth bodies of water) and therefore have less attenuation (6.0 dB per doubling). A street or roadway with moving vehicles (known as a “line” source), typically attenuates at a lower rate, 3 to 4.5 dB each time the distance doubles from the source, that also depends on ground absorption (Caltrans, 1998b). Physical barriers located between a noise source and the noise receptor, such as berms or sound walls, increase the attenuation that occurs by distance alone. Noise from large construction sites have characteristics of both “point” and “line” sources, so attenuation ranges between 4.5 and 7.5 dB per doubling of distance.

REGULATORY CONTEXT

Federal

There are no applicable federal noise requirements.

State

Title 24

The State of California establishes noise insulation standards known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of 45 dB, Ldn in any habitable room. They require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than 60 dB, Ldn.

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State pass-by standard is consistent with the federal limit of 80 dB. The State

pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

Local

The project site is in the City of Capitola. However, there is a portion of the project alignment along the base of the cliff that is owned by Santa Cruz County (APN-032-071-04). Therefore, noise policies from Santa Cruz County are considered in this analysis.

City of Capitola General Plan

The City of Capitola General Plan Noise Element aims to limit community exposure to unwanted, unhealthy, and disruptive noise (City of Capitola, 2014). The City of Capitola General Plan Noise Element states that the most significant source of noise in Capitola is roadway noise from Highway 1 and local arterial roads.

The following policies from the City of Capitola General Plan Noise Element are relevant to the project:

Goal SN-7: Minimize the community's exposure to excessive noise.

Policy SN-7.3: Noise Control Ordinance. Maintain Capitola's Noise Ordinance (Municipal Code Chapter 9.12), which addresses the hours of operation of construction equipment, outdoor power tool use, leaf blowers, parking area vacuums, loud parties and activities, and vehicle noise.

City of Capitola Municipal Code

The City of Capitola Municipal Code contains a Noise Ordinance (Chapter 9.12) that provides noise standards for construction activities. Per Section 9.12.010 (B), "Except when otherwise specified in a land use permit or building permit issued by the city, any construction activity within the city shall be subject to a construction noise curfew. Construction noise shall be prohibited between the hours of nine p.m. and seven-thirty a.m. on weekdays. Construction noise shall be prohibited on weekends with the exception of Saturday work between nine a.m. and four p.m. or emergency work approved by the building official."

Santa Cruz County General Plan

The Santa Cruz County General Plan Noise Element provides standards that are used to address concerns of noise exposure on new development and from noise sources on existing noise-sensitive receptors (Santa Cruz County, 2020).

The following policies from the Santa Cruz County General Plan Noise Element are relevant to the project:

Objective 9.2: Noise Exposure of Existing Sensitive Uses and Receptors. Minimize exposure of existing noise-sensitive land uses and receptors to excessive, unsafe, or disruptive noise that may be generated by new land uses and development projects.

Policy 9.4.3: Continue to consider noise concerns in evaluating all proposed development decisions related to roadway and other transportation projects.

Policy 9.6.2: Enforce the County of Santa Cruz Noise Ordinance (County Code Chapter 8.30) to ensure that unlawful noise-generating activities and offensive noises are subject to enforcement.

Policy 9.6.4: Continue to enforce noise abatement and control measures that have been required, designed and incorporated into development projects, particularly within or adjacent to residential neighborhoods and sensitive receptors.

Santa Cruz County Code

Chapter 13.15 (Noise Planning) of the Santa Cruz County Code provides noise standards for construction activities. Per Section 13.15.040 (A), “Noise sources normally and reasonably associated with construction, repair, remodeling, or grading of any real property, provided a permit has been obtained from the County as required, and provided said activities take place between the hours of 8:00 a.m. and 5:00 p.m. on weekdays unless the Building Official has in advance authorized said activities to start at 7:00 a.m. and/or continue no later than 7:00 p.m. Such activities shall not take place on Saturdays unless the Building Official has in advance authorized said activities, and provided said activities take place between 9:00 a.m. and 5:00 p.m. and no more than three Saturdays per month. Such activities shall not take place on Sunday or a federal holiday unless the Building Official has in advance authorized such work on a Sunday or federal holiday, or during earlier morning or later evening hours of a weekday or Saturday.”

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others due to the amount of noise exposure, in terms of both duration and insulation from noise, and the types of activities typically involved. Residences, hospitals, schools, and nursing homes are generally more sensitive to noise than commercial and industrial land uses.

Noise-sensitive land uses in the City of Capitola General Plan Noise Element are defined as residences, hospitals, libraries, schools, parks, and retirement homes (City of Capitola, 2014). Noise-sensitive land uses in the Santa Cruz County General Plan Noise Element are defined as residential uses, schools, hospitals, churches, convalescent care facilities, and hotels (Santa Cruz County, 2020). The nearest residences are directly northeast of the project boundary along Cliff Drive (approximately 30 feet away from the nearest proposed road improvements). There are residences approximately 150 feet west of the project boundary along Prospect Avenue and residences approximately 300 feet south of the project boundary along Cliff Drive.

METHODOLOGY AND EXISTING NOISE ENVIRONMENT

To quantify existing ambient noise levels, this noise study included two long-term (72-hour) and three short-term (10-minute) noise measurements at the project site. Metrosonics db308 Sound

Level Meters calibrated before and after the measurements were used for the long-term noise measurement. A Larson Davis SoundTrack LxT Sound Level Meter calibrated before and after the measurements was used for the short-term measurements. **Table 2** summarizes the locations and results of the noise measurements. **Figure 1** shows the noise measurement locations on a map.

The **Noise Appendix** includes results of the long-term noise measurements shown on a daily plot with hourly measurements results for Sites 1 and 2. Based on observations from the short-term measurements, the main source of existing noise in the project vicinity is noise from traffic on Cliff Drive. Other sources of noise included waves crashing, people walking along Cliff Drive and Prospect Avenue, and winds.

TABLE 2. EXISTING NOISE LEVELS

Location	Time Period	Noise Levels (dB)	Noise Sources
Site 1: Directly adjacent to home nearest to project boundary, approximately 50 feet east of Cliff Drive.	February 18, 12:00 a.m. through February 20, 11:59 p.m., 2025 72-hour measurement.	Hourly Leq's ranged from: 56-70 CNEL: 65, 65, 64	Unattended noise measurements do not specifically identify noise sources.
Site 1: Directly adjacent to home nearest to project boundary, approximately 50 feet east of Cliff Drive.	Monday February 17, 2025 10:56 a.m. to 11:06 a.m.	5-minute Leq's: 63, 64	Cars passing on Mora Drive ranged from 62-75 dB. Constant waves crashing ranged from 63-65 dB. People walking along Cliff Drive ranged from 52-59 dB.
Site 2: Directly south of homes along Prospect Avenue, approximately 150 feet west of project boundary.	February 18, 12:00 a.m. through February 20, 11:59 p.m., 2025 72-hour measurement.	Hourly Leq's ranged from: 43-74 CNEL: 55, 61, 54	Unattended noise measurements do not specifically identify noise sources.
Site 2: Directly south of homes along Prospect Avenue, approximately 150 feet west of project boundary.	Monday February 17, 2025 11:26 a.m. to 11:36 a.m.	5-minute Leq's: 60, 57	Cars passing on Mora Drive ranged from 60-74 dB. Cars passing on Prospect ranged from 62-69 dB. Wind was 51 dB.
Site 3: Directly adjacent to homes along Cliff Drive approximately 300 feet south of project boundary.	Wednesday February 5, 2025 11:11 a.m. to 11:21 a.m.	5-minute Leq's: 64, 64	Cars passing on Mora Drive ranged from 60-73 dB. Constant waves crashing ranged from 60-65 dB. People walking along Cliff Drive ranged from 50-55 dB.

Source: RCH Group, 2025

FIGURE 1. NOISE MEASUREMENT LOCATIONS

Base Map Source: Google Earth, 2025.

SIGNIFICANCE THRESHOLDS

The significance of potential impacts was determined based on the State CEQA *Guidelines*, Appendix G noise issue questions and thresholds related to those noise issues, shown below. Using the Appendix G evaluation checklist questions for Noise, a potentially significant noise impacts could occur if the project would:

- a) Generate a substantial temporary or permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
 - Daytime construction noise could be potentially significant if daytime construction occurring in Capitola would occur outside the adopted hours of construction outlined in Chapter 9.12 of the City of Capitola Municipal Code. The applicable hours of construction in Capitola are 7:30 a.m. to 9:00 p.m. Monday through Friday and 9:00 a.m. to 4:00 p.m. on Saturdays.
 - Daytime construction noise could be potentially significant if daytime construction occurring in the Santa Cruz County right of way (ROW) would occur outside the adopted hours of construction outlined in Chapter 13.15 of the Santa Cruz County Municipal Code. The applicable hours of construction in Capitola are 8:00 a.m. and 5:00 p.m. on weekdays unless the Building Official has in advance authorized said activities to start at 7:00 a.m. and/or continue no later than 7:00 p.m. Such activities shall not take place on Saturdays unless the Building Official has in advance authorized said activities, and provided said activities take place between 9:00 a.m. and 5:00 p.m. and no more than three Saturdays per month. Such activities shall not take place on Sunday or a federal holiday unless the Building Official has in advance authorized such work on a Sunday or federal holiday, or during earlier morning or later evening hours of a weekday or Saturday.
 - Nighttime construction noise could be potentially significant if nighttime construction would expose nearby noise-sensitive receptors to noise levels exceeding an interior noise level of 45 dB, Ldn/CNEL as a result of nearby construction activities.
- b) Generate excessive groundborne vibration or groundborne noise levels; or
 - Construction vibration would be potentially significant if construction equipment exceeds the Caltrans structural damage threshold for structures on adjacent properties.
- c) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, expose persons residing or working in the project area to excessive noise levels.
 - The project site is approximately 10 miles west of the Watsonville Municipal Airport (the nearest airport to the project site). At this distance, aircraft noise from this airport would not be noticeable and would have no impact on people working or residing in the project area. Therefore, airport noise impacts are not further discussed in this analysis.

DISCUSSION

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

Construction Noise Impacts

Construction activities are anticipated to last approximately seven months. Construction would not occur during rain, high winds, or extremely high tides. Construction would result in a temporary increase in ambient noise levels in the vicinity of the project. Construction activities would require the use of numerous pieces of noise-generating equipment, such as excavators and rollers and other construction equipment (e.g., cranes, pavers, trucks, air compressors, generators, etc.). The noise levels generated by construction equipment would vary greatly depending upon factors such as the type and specific model of the equipment, usage factor, the operation being performed, the condition of the equipment, and the prevailing wind direction. Construction equipment would not all operate at the same time or location. Furthermore, construction equipment would not be in constant use during the 8-hour operating day.

As discussed above, the nearest noise-sensitive receptors to construction would be the residences that are directly northeast of the project boundary along Cliff Drive (approximately 30 feet away from the nearest proposed road improvements). There are residences approximately 150 feet west of the project boundary along Prospect Avenue and residences approximately 300 feet south of the project boundary along Cliff Drive. The maximum noise levels for various types of construction equipment that would be used during project construction at 50 feet, 150 feet, and 300 feet are shown in **Table 3**.

TABLE 3. TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT (LMAX)

Construction Equipment	Noise Level (dB, Lmax at 50 feet)	Noise Level (dB, Lmax at 150 feet) ¹	Noise Level (dB, Lmax at 300 feet) ²
Air Compressor	78	69	59
Concrete Mixer Truck	79	70	60
Concrete Pump Truck	81	72	62
Crane	81	72	62
Excavator	81	72	62
Front End Loader	79	70	60
Generator	81	72	62
Pump	81	72	62
Roller	80	71	61

NOTES:

L_{max} = maximum sound level

1. An attenuation rate of 6.0 dB per doubling of distance was used to attenuate noise levels to 150 feet.
2. An attenuation rate of 7.5 dB per doubling of distance was used to attenuate noise levels to 300 feet to account for a berm between Cliff Drive and Prospect Avenue.

Source: Federal Highway Administration (FHWA) Roadway Construction Noise Model User's Guide, 2006.

Due to the proximity of nearby noise-sensitive receptors to Cliff Drive (a busy arterial roadway), construction noise would be similar to the existing traffic noise levels observed at nearby noise-sensitive receptors (see **Table 2**, noise level results for Sites 1-3, daytime traffic noise on Cliff Drive ranged from 60-75 dB⁴) and would not be expected to significantly elevate the existing ambient noise. The majority of construction activities in Capitola would occur only during the allowable construction hours outlined in Chapter 9.12 of the Capitola Municipal Code (7:30 a.m. to 9:00 p.m. Monday through Friday and 9:00 a.m. to 4:00 p.m. on Saturdays). As discussed above, a portion of the project alignment is on Santa Cruz County land. The majority of construction activities in Santa Cruz County would occur only during the allowable construction hours outlined in Chapter 13.15 of the Santa Cruz County Municipal Code (8:00 a.m. to 5:00 p.m. on weekdays, with an option for extended hours that can be authorized by the Building Official).

Although most of the construction would occur within the allowable daytime hours of construction in Capitola and Santa Cruz County, the project would require temporary nighttime construction events to allow for construction at the base of the bluff (i.e. boulder placement). This type of construction would be necessary because it can only occur during favorable low tide conditions. Temporary nighttime construction is estimated to occur intermittently for only 1-2 weeks and could occur for up to 6 hours (or as long as favorable low tide conditions last⁵) per night during those 1-2 weeks. During nighttime construction, a crane would be used on Cliff Drive to lower boulders down to the base of the bluff for stabilization. The crane could operate as close as 170 feet away from the nearest residence on Cliff Drive⁶.

Due to the proximity of nearby noise-sensitive receptors to nighttime construction proposed on Cliff Drive, this analysis considers nighttime construction noise to be potentially significant if nighttime construction noise reaching nearby residences would cause the interior noise levels to exceed 45 dB, Ldn or CNEL in any habitable room. Interior noise levels exceeding this threshold could result in sleep disturbances.

The FHWA Roadway Construction Noise Model (RCNM) (Version 1.1) was used for analyzing nighttime construction noise because it contains a robust inventory of off-road equipment and reference noise levels common to construction projects. Estimates of noise from the project are based on a roster of the maximum amount of equipment used on a given day. Therefore, the noise level and usage factor associated with the proposed use of nighttime equipment (i.e., crane) is typical for the equipment type and not based on any specific make or model. **Table 4** presents the results of RCNM for the abovementioned nighttime construction as an hourly Leq value. Results of the RCNM noise calculations for nighttime construction are included in the **Noise Appendix**.

⁴ Based on observations during short-term noise measurements taken at Sites 1-3.

⁵ The National Oceanic and Atmospheric Administration (NOAA) states that low tides can last up to 6 hours.
https://oceanservice.noaa.gov/education/tutorial_tides/tides05_lunarday.html.

⁶ Note that during site observations conducted by RCH on February 17 and 21, 2025, the nearest home on Cliff Drive appeared to be vacant with no tenants living in the property. There were several signs indicating the property was for sale. However, this analysis will assume that this residence would be occupied during nighttime construction.

TABLE 4. ESTIMATED INTERIOR NOISE LEVELS AT NEARBY RESIDENCES DURING NIGHTTIME CONSTRUCTION

Activity	Principal Noise Source	Distance to Receptor	Usage Factor	Leq(h) Level (dB) ¹	Calculated Interior Noise Level with Exterior-to-Interior Reduction (dB) ²	Threshold (dB, Ldn/CNEL)	Exceeds Threshold?
Nighttime Construction	Crane	170 feet	16%	62	32-37	45	No

NOTES:

1. The hourly Leq level is adjusted for distance from the nearest sensitive receptor and the percentage of usage.
2. Assumes noise reduction afforded by building construction for modern building of 25-30 dB exterior-to-interior noise level reduction, assuming windows and doors are closed (Caltrans, 2002a).

Source: RCNM, Version 1.1.; RCH Group, 2025.

As shown in **Table 4**, use of a crane during temporary nighttime construction would result in an exterior noise level of 62 dB, Leq at the nearest sensitive receptor and an interior noise level of 32-37 dB, Leq. This would not exceed an interior noise level of 45 dB, Ldn or CNEL (the resulting interior noise level calculation of 32-37 dB, Leq assumes that windows and doors are closed at the nearest sensitive receptor during nighttime construction events which would reduce exterior noise levels by approximately 25-30 dB).

Note that the estimated noise levels presented in **Table 4** are for when boulder placement is occurring closest to the nearest residence. The majority of nighttime construction would occur at distances greater than 170 feet away from the nearest residence, thus nighttime noise levels would be well below the estimates shown in **Table 4**.

In addition, **Mitigation Measure NOISE-1** shall be implemented to provide notification of nighttime construction to residences within 200 feet of nighttime activities. With implementation of **Mitigation Measure NOISE-1**, temporary noise impacts from construction would be **less than significant**.

Mitigation Measures

Mitigation Measure NOISE-1: At least two weeks prior to nighttime construction, the applicant shall provide written notification to residences within 200 feet of the nighttime construction footprint. The written notification shall provide the estimated start time and duration of the nighttime construction, as well as provide recommendations to these residences to keep windows and doors closed during nighttime construction events.

Operational Impacts

Once construction is complete, the project would not increase traffic volumes compared to the existing condition. Thus, operational noise would not be expected to increase compared to existing conditions (see **Table 2**, noise level results for Sites 1-3). Therefore, operational noise would result in a **less-than-significant impact**.

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

Construction Vibration Impacts

Construction activities have the potential to result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. In most cases, vibration induced by typical construction equipment does not result in adverse effects on people or structures (Caltrans, 2013). At the highest levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in structural damage. Vibratory motion is commonly described by identifying the peak particle velocity (PPV).

For vibration, a PPV threshold of 0.5 inches per second or greater can cause architectural damage and minor structural damage. The FTA recommends a threshold of 0.5 PPV for residential and commercial structures (FTA, 2006). Vibrational effects from typical construction activities are only a concern within 25 feet of existing structures (Caltrans, 2002b). The nearest off-site structures would be farther than 25 feet away from construction activities. Therefore, vibration impacts from construction would be **less than significant**.

REFERENCES

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https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf
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https://cdi.santacruzcountyca.gov/Portals/35/CDI/Planning/Policy/GeneralPlanTownPlans/General%20Plan%20Chapters/GP_Chapter%209_Noise.pdf

Noise Appendix

1. Construction Noise Modeling (RCNM) Results
2. Long-term Noise Measurement Graphs for Sites 1 and 2



1. Construction Noise Modeling (RCNM) Results

(RCNM), Version 1.1

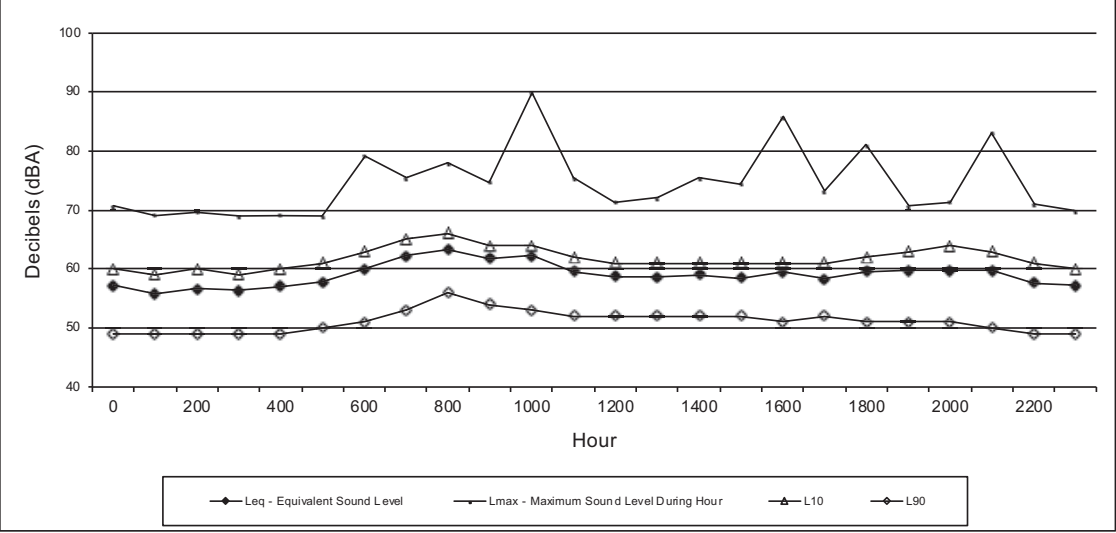
**** Receptor #1 ****

Estimated Shielding Description ----- -----	Impact Device -----	Usage (%) -----	Equipment		Receptor Distance (feet) -----	(dBA)
			Spec	Actual		
			Lmax (dBA) -----	Lmax (dBA) -----		
Crane 0.0	No	16		80.6	170.0	

Limits (dBA)	Noise Limit Exceedance (dBA)	Noise
--------------	------------------------------	-------

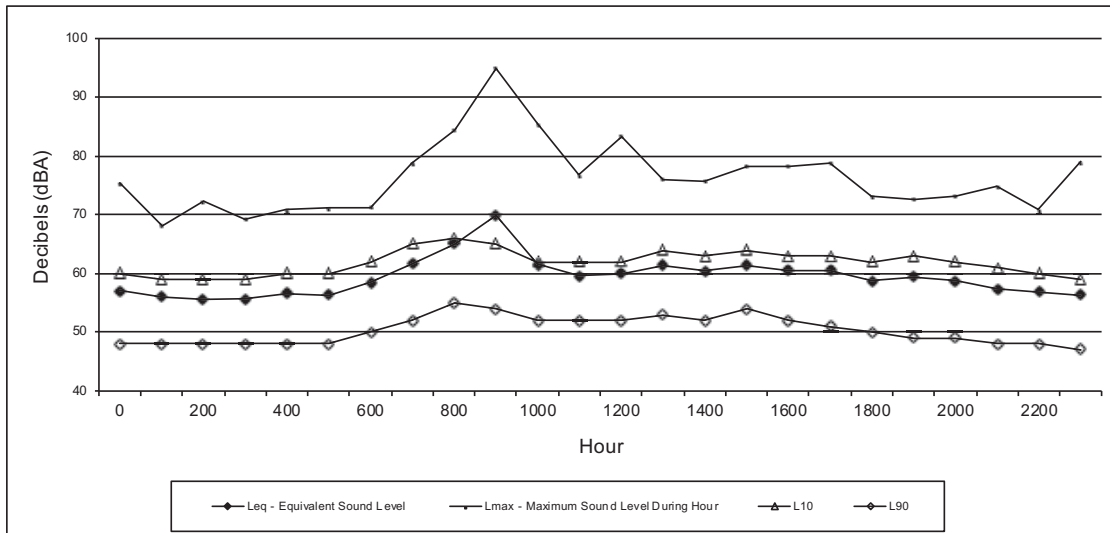
[illegible]

2. Long-term Noise Measurement Graphs for Sites 1 and 2



Site 1: Directly adjacent to home nearest to project boundary, approximately 50 feet east of Cliff Drive
Tuesday February 18, 2025

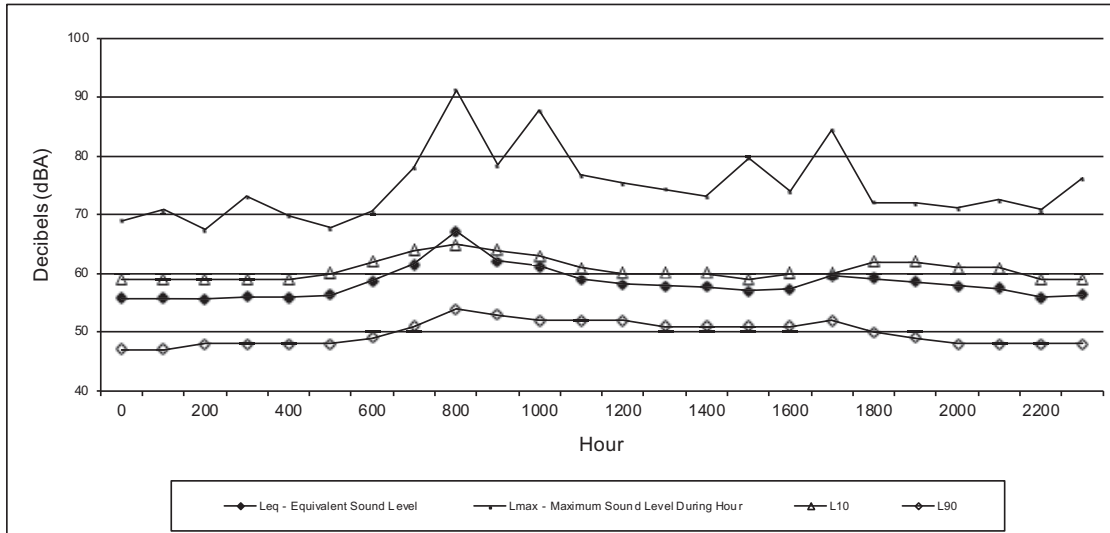
Leq - Equivalent Sound Level		Lmax - Maximum Sound Level During Hour		L10	L90
Hour		Hour			
0	57	71	60	49	
100	56	69	59	49	
200	57	70	60	49	
300	56	69	59	49	
400	57	69	60	49	
500	58	69	61	50	
600	60	79	63	51	
700	62	76	65	53	
800	63	78	66	56	
900	62	75	64	54	
1000	62	90	64	53	
1100	60	76	62	52	
1200	59	71	61	52	
1300	59	72	61	52	
1400	59	76	61	52	
1500	59	74	61	52	
1600	60	86	61	51	
1700	58	73	61	52	
1800	60	81	62	51	
1900	60	71	63	51	
2000	60	71	64	51	
2100	60	83	63	50	
2200	58	71	61	49	
2300	57	70	60	49	



Site 1: Directly adjacent to home nearest to project boundary, approximately 50 feet east of Cliff Drive
Wednesday February 19, 2025

Leq - Equivalent Sound Level		Lmax - Maximum Sound Level During		L10	L90
Hour		Hour			
0	57	75		60	48
100	56	68		59	48
200	56	72		59	48
300	56	69		59	48
400	57	71		60	48
500	56	71		60	48
600	59	71		62	50
700	62	79		65	52
800	65	85		66	55
900	70	95		65	54
1000	62	86		62	52
1100	60	77		62	52
1200	60	83		62	52
1300	61	76		64	53
1400	60	76		63	52
1500	61	78		64	54
1600	61	78		63	52
1700	61	79		63	51
1800	59	73		62	50
1900	59	73		63	49
2000	59	73		62	49
2100	57	75		61	48
2200	57	71		60	48
2300	56	79		59	47

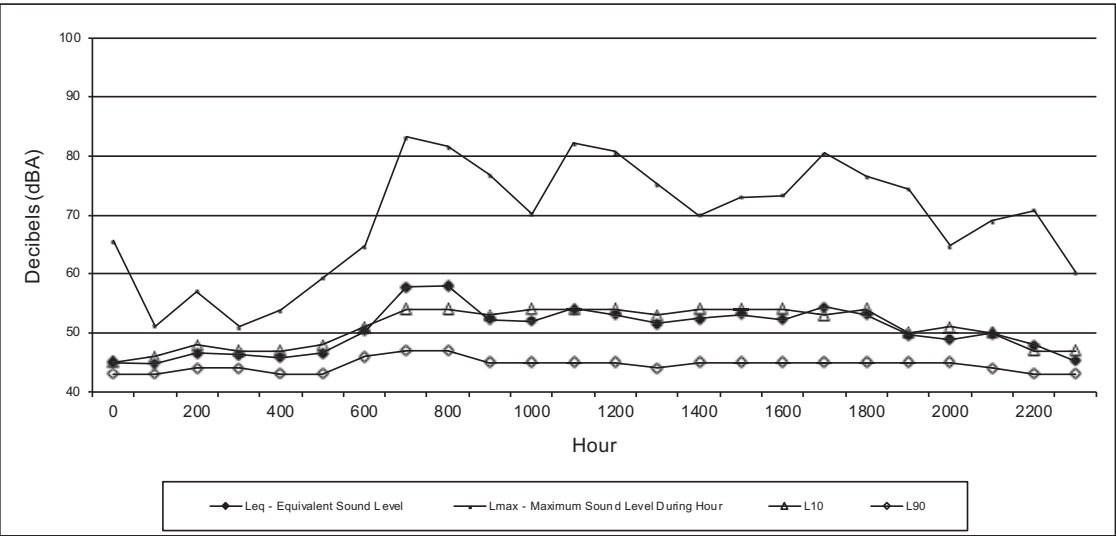
CNEL: 65



Site 1: Directly adjacent to home nearest to project boundary, approximately 50 feet east of Cliff Drive
Thursday February 20, 2025

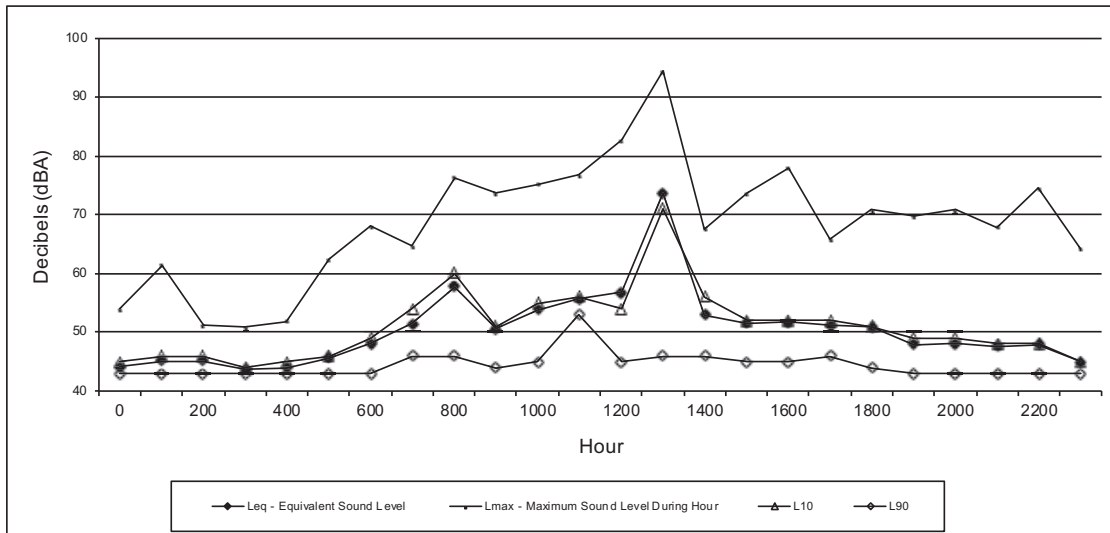
Leq - Equivalent Sound Level		Lmax - Maximum Sound Level During		L10	L90
Hour		Hour			
0	56	69		59	47
100	56	71		59	47
200	56	68		59	48
300	56	73		59	48
400	56	70		59	48
500	56	68		60	48
600	59	71		62	49
700	62	78		64	51
800	67	91		65	54
900	62	78		64	53
1000	61	88		63	52
1100	59	77		61	52
1200	58	75		60	52
1300	58	74		60	51
1400	58	73		60	51
1500	57	80		59	51
1600	57	74		60	51
1700	60	85		60	52
1800	59	72		62	50
1900	59	72		62	49
2000	58	71		61	48
2100	58	73		61	48
2200	56	71		59	48
2300	56	76		59	48

CNEL: 64



Site 2: Directly south of homes along Prospect Avenue, approximately 150 feet west of project boundary
 Tuesday February 18, 2025

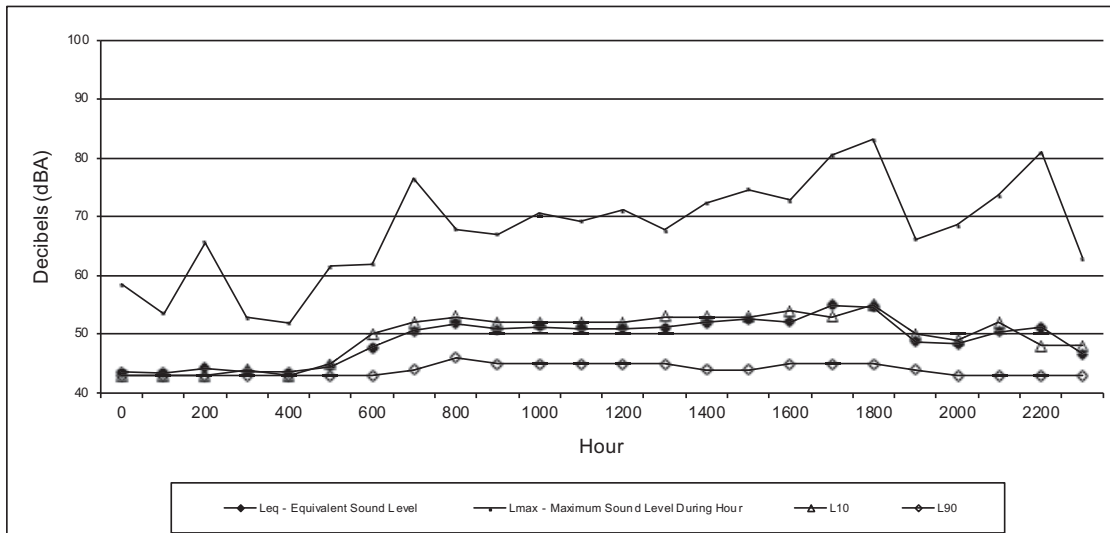
Leq - Equivalent Sound Level		Lmax - Maximum Sound Level During Hour		L10	L90
Hour		Hour			
0	45	66	45	43	
100	45	51	46	43	
200	47	57	48	44	
300	46	51	47	44	
400	46	54	47	43	
500	47	59	48	43	
600	50	65	51	46	
700	58	83	54	47	
800	58	82	54	47	
900	52	77	53	45	
1000	52	70	54	45	
1100	54	82	54	45	
1200	53	81	54	45	
1300	52	75	53	44	
1400	53	70	54	45	
1500	53	73	54	45	
1600	52	73	54	45	
1700	54	81	53	45	
1800	53	77	54	45	
1900	50	75	50	45	
2000	49	65	51	45	
2100	50	69	50	44	
2200	48	71	47	43	
2300	45	60	47	43	



Site 2: Directly south of homes along Prospect Avenue, approximately 150 feet west of project boundary
Wednesday February 19, 2025

Leq - Equivalent Sound Level		Lmax - Maximum Sound Level During		L10	L90
Hour		Hour			
0	44	54		45	43
100	45	61		46	43
200	45	51		46	43
300	44	51		44	43
400	44	52		45	43
500	46	62		46	43
600	48	68		49	43
700	51	65		54	46
800	58	76		60	46
900	51	74		51	44
1000	54	75		55	45
1100	56	77		56	53
1200	57	83		54	45
1300	74	95		71	46
1400	53	68		56	46
1500	52	74		52	45
1600	52	78		52	45
1700	51	66		52	46
1800	51	71		51	44
1900	48	70		49	43
2000	48	71		49	43
2100	48	68		48	43
2200	48	75		48	43
2300	45	64		45	43

CNEL: 61



Site 2: Directly south of homes along Prospect Avenue, approximately 150 feet west of project boundary
Thursday February 20, 2025

Leq - Equivalent Sound Level		Lmax - Maximum Sound Level During		L10	L90
Hour		Hour			
0	44	58	43	43	43
100	43	54	43	43	43
200	44	66	43	43	43
300	44	53	44	43	43
400	44	52	43	43	43
500	45	62	45	43	43
600	48	62	50	43	43
700	51	77	52	44	44
800	52	68	53	46	46
900	51	67	52	45	45
1000	51	71	52	45	45
1100	51	69	52	45	45
1200	51	71	52	45	45
1300	51	68	53	45	45
1400	52	72	53	44	44
1500	53	75	53	44	44
1600	52	73	54	45	45
1700	55	81	53	45	45
1800	55	83	55	45	45
1900	49	66	50	44	44
2000	48	69	49	43	43
2100	51	74	52	43	43
2200	51	81	48	43	43
2300	47	63	48	43	43

CNEL: 54

APPENDIX C: MITIGATION MONITORING AND REPORTING PROGRAM (TO BE
ADDED IN FINAL IS)