# State Route 1/Calera Parkway/ Highway 1 Widening Project (from South of Fassler Avenue to North of Reina Del Mar Avenue in the City of Pacifica)

## San Mateo County, California

**04-SM-1**
**PM 41.7/43.0**
**EA: 04-254600**
**Project ID: 0400000715**
**State Clearinghouse Number 2010022042**

# FINAL ENVIRONMENTAL IMPACT REPORT/ ENVIRONMENTAL ASSESSMENT

## VOLUME I

Summary & Chapters 1-3, 5, 6 & Appendix A-J

**Prepared by the**
**State of California Department of Transportation**

**The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.**

Caltrans

August 2013

# General Information About This Document

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**Summary & Chapters 1-3, 5, 6 & Appendix A-J**

**Submitted Pursuant to: (State) Division 13, California Public Resources Code (Federal) 42 USC 4332(2) C & 23 USC 327**

**THE STATE OF CALIFORNIA**
**Department of Transportation**

8-1-13
Date of Approval

Bijan Sartipi
District Director
California Department of Transportation

# CALIFORNIA DEPARTMENT OF TRANSPORTATION
# FINDING OF NO SIGNIFICANT IMPACT

# FOR THE

## STATE ROUTE 1 (SR 1)/CALERA PARKWAY/ HIGHWAY 1 WIDENING PROJECT (FROM SOUTH OF FASSLER AVENUE TO NORTH OF REINA DEL MAR AVENUE IN THE CITY OF PACIFICA)

The California Department of Transportation (Caltrans) has determined that the Build Alternative will have no significant impact on the human environment. This FONSI is based on the attached EA, which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an EIS is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached EA.

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

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# SUMMARY

## S.1 OVERVIEW OF PROJECT AREA

The California Department of Transportation ("Department" or "Caltrans"), in conjunction with the San Mateo County Transportation Authority (SMCTA) and the City of Pacifica, proposes to widen Highway 1/State Route 1/Calera Parkway (hereinafter referred to as "SR 1") in the city of Pacifica from four lanes to six lanes through the project limits. The portion of SR 1 proposed for widening is located between 400 feet and 3,200 feet east of the Pacific Ocean within the city of Pacifica and extends from approximately 1,500 feet south of Fassler Avenue to approximately 2,300 feet north of Reina Del Mar Avenue, a distance of approximately 1.3 miles.

The segment of SR 1 proposed for widening operated as a two-lane highway until 1965, when it was widened to a four-lane conventional highway with no median. In 1993, a median barrier was installed as a safety improvement. The existing roadway is four lanes with four-foot minimum outside shoulders, and a six-foot wide median with a concrete barrier.

## S.2 PURPOSE AND NEED FOR THE PROJECT

The purpose of the proposed project is to improve traffic operations by decreasing traffic congestion and improving peak-period travel times along a congested segment of SR 1 within the city of Pacifica. The project need is to alleviate a localized bottleneck only within the project reach, which is projected to deteriorate over the design life of the project.

The project segment of SR 1 from Fassler Avenue/Rockaway Beach Avenue to Reina Del Mar Avenue in Pacifica, currently acts as a bottleneck to through travel on northbound and southbound SR 1. The current morning (AM) peak period congestion along SR 1 occurs between 7:00 am and 9:00 am, primarily in the northbound direction with traffic queues extending up to 1.15 miles from the Reina Del Mar Avenue intersection south to Crespi Drive. Morning queues also extend east on Fassler Avenue as much as 2,500 feet (0.47 miles) and east on Reina Del Mar Avenue as much as 1,000 feet (0.19 miles) for local traffic trying to enter SR 1 from these cross streets.

The evening (PM) peak period congestion occurs between 4:00 pm and 6:00 pm, primarily in the southbound (SB) direction with traffic queues extending up to 2.06 miles on SR 1 from the Fassler Avenue/Rockaway Beach Avenue intersection to north of Sharp Park Road.[1]

With no improvements to the project area, congestion in the area is projected to increase both in magnitude and duration. Specifically, the traffic projections forecast that by year 2035 the peak period maximum queues will grow, nearly doubling from 1.15 miles to 2.28 miles in the AM peak

[1] The individual queues on SR 1 for Fassler and Reina Del Mar should be summed to get the total queue. For example, in the AM peak hour, the northbound maximum Reina Del Mar queue is 2,805 feet. This represents the distance from Reina Del Mar to Fassler Avenue. The AM northbound maximum Fassler queue of 3,260 feet, represents the queue from Fassler Avenue south. The total northbound queue is 2,805 + 3,260 feet, or 6,065 feet (1.15 miles). It is presented this way because in the "with project" scenarios, the two intersections operate more independently and the queues are indeed separate as opposed to the single long queue seen in the "no build" scenarios.

period and increasing from 2.06 miles to 2.80 miles in the PM peak period, which will substantially increase travel times by approximately six minutes. The increased magnitude of the congestion will also increase the duration of both the AM and PM peak periods.

Regional and vicinity maps of the project area are shown in Figures 1.1, and 1.2, respectively, in the following section. An aerial photograph showing the site and surrounding land uses, is shown on Figure 1.3.

## S.3 PROPOSED ACTION

The California Department of Transportation ("Department" or "Caltrans"), in conjunction with the San Mateo County Transportation Authority (SMCTA) and the City of Pacifica, proposes to widen Highway 1/State Route 1/Calera Parkway (hereinafter referred to as "SR 1") in the city of Pacifica from four lanes to six lanes through the project limits. Numerous design alternatives for the project were considered and evaluated for their ability to improve traffic operations, decrease congestion and delay, and improve peak-period travel times along this segment of SR 1, at a reasonable cost, while avoiding or minimizing impacts to the adjacent land uses and coastal zone resources.

Under either of the Build Alternatives described below, the project would construct improvements to SR 1/Calera Parkway, the SR 1/Fassler Avenue/Rockaway Beach Avenue intersection, and the SR 1/Reina Del Mar Avenue intersection within the project reach (the project reach is equivalent to the project limits). The footprint of the proposed roadway widening has been minimized in order to reduce right-of-way take and to avoid impacts to sensitive biological resource habitats and potential cultural resources (refer to Sections 2.16-2.20 and 2.8, Cultural Resources, of this EIR/EA, respectively, for additional detail regarding these resources).

Refer to Section *1.0 Proposed Project* of this document for additional detail regarding these proposed improvements.

## S.4 PROJECT ALTERNATIVES

A variety of potential design alternatives and solutions have been studies during the initial project design phase and during the EIR/EA scoping process. Many alternatives were suggested by members of the public during the environmental scoping process. Brief summaries of these alternatives considered are included in Section 1.4 of this EIR/EA. Given the right-of-way constraints, the minimum design criteria, the cost and funding considerations, and the environmental and regulatory constraints at the site such as sensitive habitat areas and adjacent coastal wetlands, there are two Build Alternatives evaluated further in this document. The alternatives considered further in this document are the "Narrow Median Build Alternative," the "Landscaped Median Build Alternative," and the "No-Build Alternative."

### S.4.1 No Build Alternative

The No Build Alternative would consist of not constructing the project, which would avoid all of the environmental impacts of the project, as described in this document. Under the No Build Alternative, it is assumed that all other planned and programmed improvements would be constructed and in place. The No Build Alternative would not improve traffic operations, decrease traffic congestion and delay, or improve peak-period travel times along this segment of SR 1. Under the No Build Alternative, projected increases in traffic would cause congestion to worsen and the

existing problems that are described in Section *1.2.2, Need for the Proposed Project,* would be exacerbated.

## S.4.2 Build Alternatives

The two Build Alternatives described in Section *1.3 Project Description* are the only practicable build alternatives, given the right-of-way constraints, the Department's minimum design criteria, and the environmental and regulatory constraints at the site. The two Build Alternatives are the "Narrow Median Build Alternative" and the "Landscaped Median Build Alternative." Either of these Build Alternatives would widen this segment of SR 1 from four lanes to six lanes (three lanes in each travel direction) and would include three 12-foot-wide through-lanes in each direction, with standard 10-foot outside shoulders.

Between the two intersections, SR 1 would be widened primarily on the west side of the roadway to provide for the additional two lanes and widened, standard outside shoulders and median. New pavement would be constructed west of the existing edge of pavement and would vary from 20 feet to 50 feet wide. Approximately half of the length of this widening would be constructed on new embankment contained by retaining walls to prevent encroachment into environmentally sensitive areas, and the other half would be excavated into an existing, man-made embankment (immediately south of the Reina Del Mar Avenue intersection).

The existing roadway segment has a six-foot wide median with a three-foot-high concrete barrier dividing the northbound and southbound lanes. With the proposed widening, the median of the roadway would be shifted slightly to the west and a new median would be constructed.

There are two intersections located within the project area, one near the south end of the site (SR 1/Fassler Avenue/Rockaway Beach Avenue), and one near the north end of the site (SR 1/Reina Del Mar Avenue). The two Build Alternatives propose various improvements to the lane configurations at each of these intersections.

The main difference between the two Build Alternatives is the design of the proposed median in the SR 1 roadway between San Marlo Way and Reina Del Mar Avenue. The existing roadway segment has a six-foot wide median with a three-foot-high concrete barrier dividing the northbound and southbound lanes. Under the Narrow Median Build Alternative the existing roadway median would be widened from six (6) feet to 22 feet throughout the project limits and would include a single three-foot high concrete barrier to separate northbound and southbound lanes as well as ten-foot wide inside shoulders on both the northbound and southbound sides of the highway. Under the Landscaped Median Build Alternative, the median would be widened an additional thirty (30) feet between San Marlo Way and Reina Del Mar Avenue to provide space for a landscaped median. The landscaped median cross section would consist of sixteen (16) feet of landscaping between two three-foot high concrete barriers and a ten-foot wide inside shoulder on both the northbound and southbound sides of the highway. Figure 1.6 shows a typical cross-section of the Landscaped Median Build Alternative.

Refer to Section 1.3 Project Description of this document for additional detail regarding the components of the two proposed Build Alternatives.

### S.4.3 Alternatives Considered but Eliminated from Further Discussion

During the development of the proposed project, several other potential solutions and alternative designs were considered and studied. Each was evaluated for its potential to meet the objectives of the project, its engineering feasibility in terms of its ability to meet minimum Caltrans design criteria, its cost, and its environmental impacts. A detailed discussion of the alternatives considered but eliminated is provided in Section *1.4 Project Alternatives* of this document.

### S.4.4 Preferred Alternative

On July 18, 2012, the Project Development Team (PDT) formally identified the Landscape Median Build Alternative as the preferred alternative. This decision was made after considering all information in the Draft EIR/EA and technical studies as well as comments from outside agencies, the public, and the internal PDT. Both Build Alternatives would meet the project purpose and need by reducing delay at the project intersections, thus decreasing traffic congestion and improving peak-period travel times. The No Build Alternative would not meet the project purpose and need but serves as a baseline against which to compare the Build Alternatives.

Both Build Alternatives would have similar impacts and incorporate similar avoidance and minimization measures for most resource areas. However, the Landscape Median Build Alternative would also provide enhancements to the visual character and aesthetics within the project area in the following ways: The Landscape Median Build Alternative would provide additional vegetation within the median, and separating the roadway pavement and hardscape, and the vegetation planted within the landscaped median would soften the visual experience of the corridor through this segment. The wider median design under the Landscape Median Build Alternative would also allow for more flexibility into the highway design. The Landscape Median Build Alternative would allow retaining wall heights to be reduced, further minimizing visual impacts due to the addition of hardscape within the project area. The Landscape Median Build Alternative would be slightly more compatible with the city of Pacifica Local Coastal Land Use Plan by including landscaping with the highway improvements to protect coastal views. The Landscape Median Build Alternative would partially screen the commercial and residential development adjacent to the roadway for the motorist. Another benefit of the Landscape Median Build Alternative is glare screening for headlights of oncoming traffic in both the southbound and northbound directions. Because the Landscape Median Build Alternative will contribute to greater overall aesthetic enhancement in the project segment, the PDT has identified it as the preferred alternative.

### S.4.5 Environmentally Superior Alternative

The environmentally superior alternative is the No Build alternative, which would avoid the physical impacts associated with right-of-way acquisition, biological resources, cultural resources, and aesthetics. The No Build alternative would not result in the incremental benefits of the project associated with traffic, air quality, and greenhouse gases. The No Build alternative would not fulfill the project's purpose of improving traffic operations and peak-period travel times by decreasing traffic congestion.

Apart from the No Build alternative, the two other Build Alternatives considered would improve traffic, air quality, and greenhouse gases, and would fulfill the purpose of the proposed project. Both the Narrow Median Build Alternative and the Landscaped Median Build Alternative would both result in impacts to right-of-way, biological resources, cultural resources, and aesthetics. Since the Landscaped Median Alternative would provide an aesthetic benefit to the project area by providing glare screening and opening up coastal views for northbound traffic, this alternative would be the environmentally superior alternative.

## S.5 Joint CEQA/NEPA Document

The project is subject to federal, as well as SMCTA and state environmental review requirements because the SMCTA proposes the use of federal funds from the Federal Highway Administration (FHWA) and/or the project requires a FHWA approval action. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). SMCTA is the project proponent and the Department is the lead agency under CEQA. FHWA's responsibility for environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by the Department under its assumption of responsibility pursuant to Section 6005 of SAFETEA-LU codified at 23 U.S.C. 327(a)(2)(A). With NEPA Assignment, FHWA assigned and the Department has assumed all the USDOT Secretary's responsibilities under NEPA. The assignment includes projects on the State Highway System (SHS) and all Local Assistance Projects off the SHS within the State of California, except for certain categorical exclusions that FHWA assigned to the Department under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, it is quite often the case that a "lower level" document is prepared for NEPA. One of the most commonly seen joint document types is an Environmental Impact Report/ Environmental Assessment (EIR/EA).

Following receipt of public comments on the Draft EIR/EA and preparation of the Final EIR/EA, the Department has certified that the project complies with CEQA and has adopted findings for all significant impacts identified and mitigation measures that were included as conditions of project approval. A Notice of Determination has been filed with the State Clearinghouse. Similarly, the Department, as assigned by FHWA, determined that the NEPA action does not significantly affect the environment and accordingly has issued a Finding of No Significant Impact (FONSI).

## S.6 SUMMARY OF PROJECT IMPACTS

The following (Table S-1) is a brief summary of the project's environmental consequences and the proposed avoidance, minimization, and/or mitigation measures. Because both of the Build Alternatives would widen this segment of SR 1 from four lanes to six lanes (three lanes in each travel direction) and would include three 12-foot-wide through-lanes in each direction, with standard 10-foot outside shoulders, many of the impacts summarized below would be similar under either Alternative. The reader is referred to Chapter 2 of the EIR/EA for detailed discussions of the

affected environment, environmental consequences, and avoidance, minimization, and/or mitigation measures.

Table S-2 includes a summary of the CEQA significance findings. The reader is referred to Chapter 3 of the EIR/EA for detailed discussions of the impacts of the project and the CEQA significance determinations.

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| **Land Use (Section 2.1)** | | | | |
| Effects on Adjacent Land Uses | No effect. | The total additional right-of-way required for the Narrow Median Build Alternative would be approximately 78,500 square feet including both right-of-way and easement acquisitions. Along the west side of SR 1, right of way acquisition would affect 12 existing parcels, extending for about 1,400 feet immediately north of the Fassler Avenue/Rockaway Beach Avenue intersection. Eleven of these parcels would be full acquisitions, while parcel 018-150-150 (vacant former quarry site) would be a partial acquisition. Along the east side of SR 1, right of way acquisition would affect nine existing parcels. Two of these parcels are north of Harvey Way, one of which accommodates a Lutheran Church, while the other is a vacant parcel. The remaining seven affected parcels are along the east side of Harvey Way and | The total additional right-of-way required for the Landscaped Median Build Alternative would be approximately 101,000 square feet. This alternative would require the same property acquisitions as the Narrow Median Build Alternative, plus right-of way acquisition from five additional properties east of SR 1 and south of Reina Del Mar Avenue. The required acquisitions from the Lutheran Church and adjacent property to the north would be larger due to the additional widening needed in this area and easement space needed | Acquisition would be by the County of San Mateo, a certified agency. The owners of any properties acquired for project right-of-way will be compensated for the loss and/or use in accordance with Federal and State right-of-way requirements.<br><br>No avoidance, minimization, or mitigation measures are proposed or required. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | require right-of-way and/or permanent sidewalk easement acquisitions (refer to Section 1.4.3). These seven properties currently include residential and commercial development. | for utility relocations. | |
| Consistency with Plans and Programs | Inconsistent with local and regional transportation plans. | Consistent with state, regional, and local plans and programs. | Same as Narrow Median Build Alternative | No avoidance, minimization, or mitigation measures are proposed or required. |
| **Growth (Section 2.2)** | | | | |
| Potential to Induce Growth | No effect. | The project would not result in any direct growth-inducing effects, because no development is tied to the construction of the widening and intersection improvements. Indirect growth-inducing effects would be minimal as the project does not include the construction of extended segments of new through lanes on the freeways or local streets. | Same as Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed or required. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | |
| **Relocations and Real Property Acquisition Section 2.3)** | | | | |
| Number of Residential Relocations | No effect. | The Narrow Median Build Alternative will necessitate the relocation of the residents living in the one single-family dwelling located at 425 Old County Road. | The Landscaped Median Build Alternative would necessitate the same residential relocation as the Narrow Median Build Alternative. | The following avoidance & minimization measure is proposed:<br><br>The one residential property would be purchased at fair market value. Residents would receive relocation assistance in accordance with the provision of the Caltrans Relocation Assistance Program. |
| **Environmental Justice (Section 2.4)** | | | | |
| Effects on Minority and Low-Income Populations | No effect. | The percentages of minority and low-income populations that are present in the project area are generally less than that of the community as a whole. No minority or low-income populations have been identified that would be adversely affected by the proposed project. | Same as Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. |

**TABLE S-1**

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| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | |
| **Utilities and Emergency Services (Section 2.5)** | | | | |
| Effect on Utilities | No effect. | Where necessary to construct the Narrow Median Build Alternative, some existing utility lines would be relocated, as is commonplace for projects of this nature. Such utility work would not result in disruption of utility services in the project area because existing lines would not be disconnected prior to installation of the relocated lines. | Construction of the Landscaped Median Build Alternative would also result in the relocation of existing utility lines, similar to the Narrow Median Build Alternative. Given that the Landscaped Median Build Alternative would have a wider footprint, the amount of utilities to be relocated would be greater. | No avoidance, minimization, or mitigation measures are proposed. |
| Effect on Emergency Services | No effect. | The Narrow Median Build Alternative would not affect the long-term operation of emergency services, nor would it require any right-of-way acquisition from the police station property or other emergency service facilities. | Same as Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. Emergency services would directly benefit from the proposed project in that, by reducing peak commute period congestion, emergency vehicle response times would be |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | Construction activities would occur in stages in order to minimize disturbance and to maintain circulation and access through the project area. While there could be some temporary incremental delay in response times through the site during construction activities, emergency services would directly benefit from the Narrow Median Build Alternative due to reduced congestion through the alignment area. | | reduced. |
| **Traffic and Transportation (Section 2.6)[2]** | | | | |
| Effect on SR 1 and Intersection Operations | No immediate effect. Existing congestion, delay and queuing will | Construction activities would occur in stages in order to minimize disturbance and to maintain circulation and access through the project area. Prior to construction, a Transportation Management Plan (TMP) will be | The Landscaped Median Build Alternative would result in the same effects on intersection operations as the Narrow Median Build | No additional avoidance, minimization, or mitigation measures are proposed. |

[2] This section summarizes the information contained in Section 2.6 and Section 2.22 of the EIR/EA, as well as in the Project Report.

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | worsen over time as regional growth continues. | prepared. Except for temporary off-peak lane closures, the same number of traffic lanes will be maintained on SR 1 and local streets during the construction period. Narrowed lanes on SR 1 through the construction zone will be likely. No roadway or driveway access to businesses or residents will be severed during the construction of the project. However, there would be some temporary incremental delay in travel times through the site during construction activities.<br>In year 2035, the Narrow Median Build Alternative would increase capacity through the two study intersections and would reduce peak-hour congestion through the project area. The project would not change intersection level of service (LOS) in the AM peak hour, although congestion would be substantially reduced. The project would improve LOS at the intersection of SR 1/Reina Del | Alternative. | |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | Mar Avenue by two letter grades, from excessive delays (greater than 80 seconds) to tolerable delays (35.1 to 55.0 seconds), in the PM peak hour. Average vehicle delays would decrease by approximately 65 percent in both peak hours. Travel times through the corridor would be 8 and 11 minutes shorter. . | | |
| Pedestrian Facilities | No effect. | Because the intersections at both Fassler Avenue/Rockaway Beach Avenue and Reina Del Mar Avenue would be widened, a pedestrian would require extra time to cross the street, which the traffic analysis assumes would be a minimum increase of eight seconds at each intersection. Pedestrian sidewalks would be improved throughout the project area. | The Landscaped Median Build Alternative would result in the same effects on pedestrian facilities as the Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. |
| Bicycle Facilities | No effect. | The existing two-way Class I bicycle/pedestrian path adjacent to the westerly edge of the highway north of Reina Del Mar Avenue | The Landscaped Median Build Alternative would have the same effect as the | No avoidance, minimization, or mitigation measures are proposed. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | would be would be upgraded by widening it from 8 feet to 10 feet, by increasing the separation between edge of path and edge of traveled way from 9 feet to 16 feet, and by installing a fence to provide a physical separation between the bicycle path and the highway. The existing two-way bicycle/pedestrian path west of the existing highway south of Rockaway Beach Avenue would not be altered or affected by the proposed roadway widening project. | Narrow Median Build Alternative. | |
| **Visual/Aesthetics (Section 2.7)** | | | | |
| Effects on Visual and Aesthetic Character | No effect. | The improvements proposed by the project would alter the visual character of portions of the project alignment due to the removal of buildings and retaining walls, trees, and screening shrubs at the edges of the roadway, as well as the removal of portions of the existing vegetated soil | The Landscaped Median Build Alternative would result in similar effects on visual and aesthetic character as the Narrow Median Build Alternative. This | The following avoidance and minimization measures are proposed.<br><br>Aesthetic treatment will be considered for all structures associated with the proposed project, including retaining walls, soil nail walls, concrete barriers, |

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| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | embankment. While the project would change the appearance at certain locations along the project alignment, the project would not substantially affect views or the aesthetics of the project corridor. | Alternative would, however, also include trees and shrubs within the median of the SR 1 roadway. | median barriers, railings, and nose paving. Possible aesthetic treatment can include architectural features such as surface texture, pattern treatment, and color application.<br><br>Including landscaping in the median for the project will provide aesthetic benefit. Median planting provides aesthetics in rural areas where no other highway planting exists. Median plantings provide glare screening for headlights of oncoming traffic, add visual interest through planting of greenery and flowers, and minimize the visual monotony of the expansive width of the roadway.<br><br>Replacement planting shall be implemented per Chapter 29 (Highway Planting) of the Department's *Project Development Procedures Manual* and Chapter 900 (Landscape Architecture) of the Department's *Highway Design Manual*. The replacement plants |

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| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | will be complementary to the existing landscape and appropriate to existing conditions and level of maintenance to be provided.<br><br>To minimize post-construction water quality effects, post-construction Best Management Practices (BMPs) have been incorporated into the project, as further described below under section 2.9. |
| Light and Glare | No effect. | Construction of the proposed improvements will require the use of nighttime lighting, which would temporarily increase light and glare in the site vicinity. | Construction of the Landscaped Median Build Alternative will also require the use of nighttime lighting, similar to the Narrow Median Build Alternative. | The following avoidance and minimization measure is proposed:<br><br>Nighttime construction lighting shall be directed downward towards the construction area, away from sensitive land uses, such as nearby residences. Nighttime lighting will also be directed away from the GGNRA's land surrounding the project site during construction. |
| | | | | |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| **Cultural Resources (Section 2.8)** | | | | |
| Effects on Archaeological Resources | No effect. | The project could potentially affect a cultural resource site (CA-SMa-268).<br><br>There is a low potential for exposing additional prehistoric and historic archaeological resources associated with the cultural resource site (CA-SMa-162).<br><br>Caltrans has determined a Finding of No Adverse Effect with Standard Conditions – Environmentally Sensitive Areas (ESAs), according to Section 106 PA Stipulation X.B(2) and 36 CFR 800.5(b). | The Landscaped Median Build Alternative could affect the same cultural resource sites as the Narrow Median Build Alternative. | The following avoidance and minimization measures are proposed:<br><br>Two separate Environmental Sensitive Areas (ESAs) are included as part of the project and will be maintained for each resource.<br><br>**ESA 1 (CA-SMa-162)**<br>Monitoring shall be undertaken within the Archaeological Monitoring Area (AMA) adjacent to the ESA boundary in association with a Native American Consultant to ensure that the ESA is not compromised during the removal of the engineered fill embankment placed during road construction in the 1960s to allow for future highway improvement to Highway 1. The AMA includes the recorded site boundary of CA-SMA-162 and a small buffer. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | The ESA fence and AMA shall be professionally surveyed and marked. The AMA measures approximately 270 feet north-south by 80 feet east-west (19,000 square feet) and includes the boundary of CA-SMA-162 and a small buffer.<br><br>The ESA boundary shall be marked with appropriate visible barrier fencing at least four (4) feet high and attached to temporary fence posts to indicate the presence of a "no-go" area.<br><br>The ESA boundary fence shall be clearly signed every 25 feet to indicate that it is an ESA and no work is authorized beyond the marked ESA boundary.<br><br>The ESA shall be marked on construction documents and contractual language shall be included indicating that no excavation or other ground disturbing activity is permitted |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | within the ESA.<br><br>Subsurface construction within the AMA shall not occur without the presence of a qualified Archaeological Monitor and a Native American Consultant. The Native American Consultant shall assist the Archaeological Monitor during construction and provide guidance in the event of the discovery of prehistoric artifacts and/or human remains.<br><br>Monitoring of all earth disturbing construction within the AMA shall be conducted by a qualified Archaeological Monitor with regional experience with prehistoric cultural materials and experience in identifying human bone. The San Mateo County Transportation Authority (SMCTA) Project Engineer and Project Inspector shall be responsible for implementation and enforcement of the archaeological monitoring |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | requirements including notifying the Archaeological Monitor 48 hours in advance of any monitoring needs.<br><br>The monitoring team shall have the authority to temporarily halt construction to examine any finds within the AMA and immediately adjacent areas. Diagnostic artifacts that could provide interpretive information for CA-SMA-162 shall be collected at the discretion of the Archaeological Monitor in consultation with the Native American Consultant.<br><br>Monitoring shall be undertaken within the AMA for a minimum of five feet below the present ground surface and shall be deemed complete when no evidence of subsurface cultural materials is noted in the sediments to be removed by construction.<br><br>A pre-construction meeting shall be held with the Contractor and other |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | project personnel to discuss the ESA requirements and the potential for the exposure of archaeological materials within the AMA. Procedures for any unanticipated discoveries shall be discussed with the Contractor and Environmental Construction Liaison and other pertinent parties.<br><br>If buried cultural materials are encountered during construction within the AMA, work shall stop in that area until a qualified archaeologist can evaluate the nature and significance of the find.<br><br>An Archaeological Monitoring Closure Report shall be provided by the SMCTA Project Engineer or other designated entity to Caltrans District 04 within 30 calendar days of the completion of monitoring. The report shall provide information on the monitoring protocols, dates of monitoring, discoveries, results, etc, along with appropriate graphics |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | and supplementary materials.<br><br>**ESA 2 (CA-SMa-268)**<br>No monitoring is recommended as analysis of the original ground surface as of 1940 with current elevations and proposed subsurface construction effects indicates that all construction will occur within existing fill with at least a three to five-foot buffer or more.<br><br>The ESA shall be professionally surveyed and marked. The ESA western boundary is approximately 250 feet long; the eastern boundary is approximately 200 feet long; the southern boundary is 120 feet wide (Reina Del Mar Avenue); and, the north boundary is about 115 wide.<br><br>The ESA shall be marked on construction documents and contractual language shall be included indicating that no excavation or other ground disturbing activity is permitted |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | below the approximate depth of the improvements proposed within the ESA.<br><br>Earth disturbing construction within the ESA shall be checked on a daily basis by the Contractor and reported to the Environmental Construction Liaison to determine the depth to the 1940 grade. If the grade is within three feet or less, this information shall be reported to the Caltrans Professionally Qualified Staff (PQS) Archaeologist for review.<br><br>A pre-construction meeting shall be held with the Contractor and other project personnel to discuss the ESA requirements and the potential for the exposure of archaeological materials within the ESA at depths below the approximate improvement depth. Procedures for penetration into the 1940 grade shall be discussed with the Contractor and Environmental Construction |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | Liaison and other pertinent parties. If buried cultural materials are encountered during construction within the ESA, work shall stop in that area until a qualified archaeologist can evaluate the nature and significance of the find.<br><br>If human remains are exposed in the ESA during project construction, all work in that area must halt and the San Mateo County Coroner must be contacted, pursuant to California Public Resources Code Sections 5097.94, 5097.98, and 5097.99.<br><br>An Archaeological Monitoring Closure Report for ESA 2 shall be provided by the SMCTA Project Engineer or other designated entity to Caltrans District 04 within 30 calendar days of the completion of work. The report shall provide information on the monitoring, dates of monitoring, discoveries, results, etc., along with appropriate graphics and supplementary |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | materials. |
| Effects on Historic Resources | No effect. | Pursuant to CEQA Guidelines §15064.5(a), the Department has determined that the Vallemar Station is an historic resource under CEQA and is eligible for the California Register of Historic Resources (CRHR) at a local level. The Narrow Median Build Alternative would not result in a substantial adverse change to any designated historic resources because there will be no demolition, relocation, alteration, or material impairment to the physical characteristics that justify the determination of the resource's historical significance. The project is designed to incorporate the *Secretary of the Interior's Standards for the Treatment of Historic Properties With Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings (Standards)* pursuant to CEQA | Same as Narrow Median Build Alternative. No effect. | No avoidance, minimization, or mitigation measures are proposed. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | Guidelines §15064.5(b). No effect. | | |
| **Hydrology and Floodplain (Section 2.9)** | | | | |
| Effects of Flooding | No effect. | Portions of the project area are within the one percent probability storm event floodplain (sometimes known as the "100-year" event); however, the proposed project would have a minimal effect on the floodplains.<br><br>The project would result in an increase in impervious area. This increase would be insignificant compared to the overall watershed area and would have a negligible effect upon the floodplains associated with the water bodies that cross the project. | Effects on flooding and the amount of impervious surfaces added would be similar to the Narrow Median Build Alternative. | The following avoidance and minimization measures are proposed:<br><br>The project would increase storm drain capacities so that local ponding associated with the one percent probability storm event would not differ significantly from ponding under the existing condition. The final design will ensure that storm and flood waters will not encroach on the travelled way.<br><br>Standard construction BMPs will be implemented to minimize the amount of runoff to water bodies and wetlands. The project will also include permanent treatment BMPs, biofiltration swales, and bio-strips to treat stormwater originating on- |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | site before it reaches water bodies, wetlands, or storm drain systems. |
| **Water Quality and Storm Water Runoff (Section 2.10)** | | | | |
| Storm Water Quality | No effect. | Construction-related activities may affect storm water quality and, during construction, there is a potential for temporary effects to occur due to increased erosion. There is also a potential for spills and leaks of lubricants and other fluids associated with vehicles and equipment during construction.<br><br>Certain pollutants are associated with stormwater runoff from highways and increases in roadway and other impervious surfaces also result in increases in storm water runoff. The Narrow Median Build Alternative would result in an increase in the amount of roadway paving and other impervious surfaces. However, this increase would be minimal, especially given the fact that most of the project site already consists of | The extent of construction activities and the amount of impervious surfaces added would be similar to the Narrow Median Build Alternative. | The following avoidance and minimization measures are proposed:<br><br>The design of the project includes Best Management Practices (BMPs) to reduce the pollutant component of stormwater runoff, as required by the Caltrans National Pollutant Discharge Elimination System (NPDES) permit and the NPDES permit for general construction activities (see above discussion). In addition to the requirements of the NPDES permit, compliance with the requirements of the Caltrans Stormwater Management Plan (SWMP) is also required. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | roadways (i.e., the existing freeway). | | |
| **Geology/Soils/Seismic/Topography (Section 2.11)** | | | | |
| Geologic Hazards | No effect. | The proposed project would involve typical highway excavation and grading practices necessary to construct the additional lanes and intersection modifications. There are no geologic features on the site that would pose special or unique hazards to users of the proposed improvements. The project would implement standard engineering practices to ensure that geotechnical and soil hazards do not result from its construction. | The Landscaped Median Build Alternative would require similar excavation and grading practices as the Narrow Median Build Alternative to construct the additional lanes and intersection modifications. | No additional avoidance, minimization, or mitigation measures are proposed. |
| **Paleontology (Section 2.12)** | | | | |
| Effects on Paleontological Resources | No effect. | The areas where planned ground-disturbing/excavation activities into native soils will occur within the project footprint could | The Landscaped Median Build Alternative could affect the same | The following avoidance and minimizations measures for paleontological resources are proposed and are in accordance with |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | potentially affect paleontological resources. Excavations will take place in three locations: at the southeastern end of the project site (Cut 1), southeast of Fassler Avenue (Cut 2), and northwest of Reina Del Mar Avenue (Cut 3). The average depths of all cuts are seven feet. Cut 1 and Cut 2 are approximately 10 feet wide and are 700 and 600 feet long, respectively. Cut 3 is approximately 44 feet wide and 1,000 feet long. | paleontological resource sites as the Narrow Median Build Alternative. | Caltrans' Standard Environmental Reference Guidelines (Caltrans, 2007) for those areas where ground-disturbing activities may take place.<br><br>Depending on the wall type to be placed in the terrace deposits, if excavation is expected, a Paleontological Evaluation Report (PER) will be prepared, prior to construction to define actual locations where monitoring will be necessary based upon the project design. If no excavation is needed, a PER is not required because the remaining geologic deposits have been thoroughly studied in the past and the fossils are abundant enough not to be considered significant.<br><br>Based on the findings from the PER, a Paleontological Mitigation Plan (PMP) may be required to define a specific Program of measures and methods that will be implemented. These requirements may include: |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | A qualified paleontologist will be present to consult with grading and excavation contractors at pre-grading meetings.<br><br>The Principal Paleontologist will also have an environmental meeting to train grading and excavation contractors in the identification of fossils.<br><br>When fossils are discovered, the paleontologist (or paleontological monitor) will be called to recover them. Construction work in these areas will be halted or diverted to allow recovery of fossil remains in a timely manner.<br><br>Fossil remains collected during the monitoring and salvage portion of the Program will be cleaned, stabilized, sorted, and catalogued.<br><br>Prepared fossils, along with copies of all pertinent field notes, photos, |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | and maps, will then be deposited in a scientific institution with paleontological collections (i.e., UC Museum of Paleontology, Berkley, CA).<br><br>A final report will be completed that outlines the results of the Program. |
| **Hazardous Waste/Materials (Section 2.13)** | | | | |
| Presence of Hazardous Materials or Hazardous Waste | No effect. | There are several sites in the vicinity of the project segment of SR 1 where hazardous materials are generated, used, or stored and/or where some type of spill/leakage/contamination has occurred. | The same contamination sites near the project alignment would be in the vicinity of the Landscaped Median Build Alternative. | The following avoidance and minimization measures are proposed:<br><br>Prior to project development, a soils investigation shall be completed in areas of probable or suspect contamination to determine if petroleum hydrocarbons have affected soils that will be excavated as part of the proposed project. Soil sampling shall also be completed within the man-made embankment on the west side of SR 1, north and south of the Reina Del Mar Avenue intersection. Based on analytical |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | results, the investigation will provide recommendations regarding management and disposal of affected soil in the project area.<br><br>A health and safety plan shall also be prepared to provide general guidance to the work hazards that may be encountered during construction activities in these areas.<br><br>Prior to project development, a groundwater investigation shall be completed in areas of probable or suspect contamination to determine if petroleum hydrocarbons have affected ground water that will be encountered as part of the proposed project excavation. If dewatering is anticipated by the proposed project, the investigation report will provide recommendations regarding proper treatment, if necessary, and disposal or reuse of affected ground water. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| Exposure to Aerially-Deposited Lead (ADL), Asbestos-Containing Materials, and/or Lead-Based Paint | No effect. | Soil with elevated concentrations of lead is likely to be present at the site.<br><br>An embankment comprised of unknown fill materials is present within the project limits.<br><br>Naturally-occurring asbestos may be present in rock within the project alignment.<br><br>Structures located within the project alignment presumably will be demolished that may include asbestos-containing materials. | The Landscaped Median Build Alternative would have similar exposure to ADL, asbestos-containing materials, and lead-based paint as the Narrow Median Build Alternative. | The following avoidance and minimization measures are proposed:<br><br>Prior to project development, a soil investigation shall be completed to determine whether aerially-deposited lead (ADL) has affected soils that will be excavated as part of the proposed project. The investigation for ADL shall be performed in accordance with the Caltrans' Lead Testing Guidance Procedure (dated March 16, 2001). Under the DTSC variance for lead-affected soil, soil affected with ADL can be reused as construction fill provided that it is placed at least five feet above maximum ground water level.<br><br>Soil sampling for asbestos shall be completed along the southern end of the alignment, as well as the within the man-made embankment on the |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | west side of SR 1, north and south of the Reina Del Mar Avenue intersection.<br><br>Asbestos-containing material surveys shall be completed following National Emissions Standards for Hazardous Air Pollutants (NESHAP) guidelines at any structure proposed for demolition during project development that is known or suspected to have been constructed prior to 1990. |
| **Air Quality (Section 2.14)** | | | | |
| Conformance with Clean Air Act | No effect. | The project can meet air quality conformity at the regional level because it is included in the Regional Transportation Plan and the Transportation Improvement Program, both of which have been found to conform to the Clean Air Act. | Same as Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| Effect on Emissions of Carbon Monoxide | No effect. | The Narrow Median Build Alternative would not cause or contribute to any localized carbon monoxide violations. It should be noted that improving the operations of this portion of SR 1 would reduce congestion and vehicle idling, which would slightly reduce air emissions from vehicles traveling through the site. | Same as Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. |
| Effect on Emissions of $PM_{10}$ and $PM_{2.5}$ | No effect. | The Narrow Median Build Alternative would not result in additional emissions of fine particulate matter ($PM_{10}$ and $PM_{2.5}$) in the long-term. The short-term emissions of particulate matter are addressed under Section 2.22 Construction Impacts. | Same as Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. |
| Effect on Emissions of Air Toxics | No effect. | The Narrow Median Build Alternative would not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing highway facility, or any other factor that would cause an increase or change in duration | Same as Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | of air toxics emissions. | | |
| **Noise and Vibration (Section 2.15)** | | | | |
| Changes in Noise Levels | No effect. | Noise levels would remain unchanged from existing levels, or would increase by 1-3 decibels. This increase would not be perceptible and would not exceed the threshold in the Department's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects*. | The projected increase in noise levels for the Landscaped Median Build Alternative would be the same as the Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. |
| Noise Levels Exceed Noise Abatement Criteria? | No effect. | Projected noise levels would, however, approach or exceed FHWA's noise abatement criteria at four locations, two of which also approach or exceed the criteria under existing conditions. | Same as Narrow Median Build Alternative. | The feasibility and reasonableness allowances of noise abatement soundwalls were considered.<br><br>Noise abatement in the form of soundwalls is not incorporated into the proposed project.<br><br>No avoidance, minimization, or mitigation measures are proposed. |
| **Natural Communities (Section 2.16)** | | | | |
| Effect on Natural | No effect. | No natural communities of concern | Same as Narrow | The following avoidance and |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| Communities of Concern | | (i.e., shining willow riparian forest, aquatic, or seasonal wetlands) are located within areas of permanent or temporary project effects. The Narrow Median Build Alternative would avoid these habitats by using retaining walls to constrain roadway fill so that construction will be outside of these habitats.<br><br>SR 1 currently impedes the dispersal of terrestrial animal species between coastal habitats and inland areas along the project alignment. | Median Build Alternative. While the alignment would be shifted slightly for the Landscaped Median Build Alternative, this Alternative would also use retaining walls to constrain roadway fill so that construction will be outside of these habitats. | minimization measures are proposed:<br><br>All temporary staging areas and construction access roads will be located in upland areas or existing developed areas out of wetland, aquatic and riparian habitats.<br><br>No equipment will be operated in the live stream channel of Calera Creek.<br><br>The boundaries of the project will be clearly delineated with orange-colored plastic construction fencing (ESA) to prevent workers or equipment from inadvertently straying from the designated construction area. All construction personnel, equipment, and vehicle movement shall be confined within all designated construction areas. |
| **Wetlands and Other Waters (Section 2.17)** | | | | |
| Effect on Wetlands or Other | No effect. | No work or staging of equipment or materials is proposed within | While the alignment would be shifted | The following avoidance and minimization measures are |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| Waters | | areas supporting wetlands or other waters as defined by U.S. Army Corps of Engineers or coastal wetlands as defined by the California Coastal Commission. Therefore, wetlands will not be filled or directly affected by the project.<br><br>Indirect effects on water quality in wetlands and other waters on-site or off-site are possible during and after construction of the project.<br><br>A cantilevered bridge will be constructed over an existing culvert outfall where road widening of SR 1 approximately 700 feet north of Fassler Avenue will expand over wetland habitat. Although the cantilevered roadway section of the culvert area would create some shading, this would not be a substantial change because this wetland area is currently shaded, and no vegetation is growing in this area under existing | slightly for the Landscaped Median Build Alternative, this Alternative would result in the same effects on wetlands and other waters as the Narrow Median Build Alternative. | proposed:<br><br>As described in Section *2.10.3 Water Quality and Stormwater Runoff, Environmental Consequences*, in compliance with Caltrans' NPDES permit, the project includes feasible BMPs to treat stormwater runoff and control pollutants in runoff during the construction and post-construction periods. These measures will avoid indirect effects to wetlands in the vicinity of the project. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | conditions. Therefore, the proposed cantilevered bridge would not indirectly affect wetlands. | | |
| **Plant Species (Section 2.18)** | | | | |
| Effect on Special-Status Plant Species | No effect. | No special-status plant species are present within the project area. Therefore, the project would not affect any special-status plant species. | While the alignment would be shifted slightly for the Landscaped Median Build Alternative, this Alternative would result in the same effects on special-status plant species as the Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. |
| **Animal Species (Section 2.19)** | | | | |
| Effect on Special-Status Animal Species | No effect. | Habitat for the western pond turtle at the site is marginal, although it is possible that turtles may occur occasionally as dispersing individuals. | Same as Narrow Median Build Alternative. | The same mitigation measures included in the project for California red-legged frogs and San Francisco garter snakes in Section *2.20 Threatened and Endangered* |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | *Species*, would reduce the potential for individual turtles to be affected by construction activities. |
| Effect on Nesting Migratory Birds | No effect. | There is a potential that construction activities could affect nesting migratory birds that are protected under the Migratory Bird Treaty Act and California Fish & Game Code, including the loggerhead shrike, yellow warbler, San Francisco common yellowthroat, or white-tailed kite. | Construction activities for the Landscaped Median Build Alternative would result in similar effects as the Narrow Median Build Alternative. | The following avoidance and minimization measures are proposed:<br><br>Potential nesting substrate (e.g., bushes, trees, grass, and suitable artificial surfaces) will be removed during the non-breeding season (removal between September 1 and February 1), if feasible, to preclude nesting. If it is not feasible to schedule vegetation removal during the non-breeding season, then pre-construction surveys for nesting birds shall be conducted by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. This survey shall be conducted no more than seven days prior to the initiation of construction activities. During this survey the ornithologist will inspect trees, shrubs, and other |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | potential nesting habitats in and immediately adjacent to the effect areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist, in consultation with CDFG, will determine the extent of a buffer zone to be established around the nests, typically 50-100 feet for passerine birds like yellow warblers and San Francisco common yellowthroats and up to 250 feet for white-tailed kites.<br><br>If construction activities cease for more than one week during the nesting season and nesting habitat for these species remains, additional preconstruction surveys will be conducted.<br><br>If it is necessary to conduct pre-construction surveys for nesting birds for vegetation removal during the nonbreeding season, the surveys will cover all bird species present. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | Any active, native bird nest that would be affected by construction activities, during the nesting season, would be protected under the Migratory Bird Treaty Act (MBTA). Caltrans has Standard Specifications (Bird Protection S5-625) to protect nesting birds which will be incorporated into the project design and implementation. |
| **Threatened and Endangered Species (Section 2.20)** | | | | |
| Effect on California Red-Legged Frog | No effect. | The project would not result in direct permanent or temporary effects to aquatic, riparian, or wetland habitats used by California red-legged frogs. The hydrology of aquatic habitats outside the project area where California red-legged frogs could be present also would not be altered by the project. Construction of the project would, however, disturb developed and roadside/ruderal grassland habitat that could be used for foraging and dispersal by frogs. The project | The Landscaped Median Build Alternative would result in similar effects to California Red-Legged Frog as the Narrow Median Build Alternative. This Alternative would affect an additional 0.27 acres of additional dispersal habitat beyond that described for the Narrow Median Build | The following mitigation measures are proposed:<br><br>To the extent practicable, nighttime construction will be minimized to avoid effects to nocturnally active listed species. When necessary in areas adjacent to California red-legged frog habitat, work lights will be directed away from adjacent habitat areas.<br><br>Wildlife exclusion fencing (WEF) shall be installed prior to the |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | would result in permanent effects to 6.81 acres of potentially occupied habitat and temporary effects to 3.75 acres of potentially occupied habitat. | Alternative (i.e., 7.08 acres permanently affected). | initiation of construction activities to exclude California red-legged frogs from the construction area. The WEF will consist of silt-fencing, plywood, or suitable material at least 36 inches high that is buried six (6) inches deep in the ground, or sealed in a like manner, to prevent incursion under the fencing. In addition, at the end of each fencing segment, the WEF will be installed to curve back away from the roadway. WEF will be located along the edge of construction effect areas wherever they are within 300 feet of Calera Creek or the off-site ditch that parallels southbound SR 1, northeast of San Marlo Way and south of Calera Creek.<br><br>Prior to installation of the WEF, a preconstruction survey shall be conducted by a qualified biologist in the portions of the Biological Study Area (BSA) where equipment and construction activities will be |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | located. Additionally, a qualified biologist shall monitor the installation of the WEF to ensure that no California red-legged frogs are trapped within the construction area or harmed during installation. A post-installation survey shall be conducted to confirm the absence of frogs within the WEF. Any California red-legged frog found within the construction area (i.e., inside the WEF) will be relocated by the approved biologist to a safe location west of the BSA, which is preapproved by the USFWS and within Calera Creek or the Pacifica wastewater treatment ponds.<br><br>The boundaries of the project shall be clearly delineated with orange-colored plastic construction fencing (ESA fencing) to prevent workers or equipment from inadvertently straying from the designated construction area. All construction personnel, equipment, and vehicle movement shall be confined within |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | the designated construction, access, and staging areas. This fencing will be installed concurrently with or after the WEF and will be located on the construction side of the WEF.<br><br>Before any construction activities begin, a qualified biologist will conduct a training session with construction personnel to describe the California red-legged frog, its habitat, its conservation status, the specific measures being implemented to minimize effects to the species, and the boundaries of the Project area.<br><br>To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than one-foot deep will be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | such holes or trenches are filled they must be thoroughly inspected for trapped animals. All replacement pipes, culverts, or similar structures stored in the action area overnight will be inspected before they are subsequently moved, capped and/or buried. If at any time a listed species is discovered, the Resident Engineer and Service-approved biologist will be immediately informed.<br><br>Prior to the start of work each day, a qualified biologist, serving as a Biological Monitor, shall inspect the integrity of the WEF to ensure no holes or damage, and the area within the construction zone, focusing on pits that were left open overnight and under equipment and materials. After this time, a biological monitor shall be designated to monitor on-site compliance with all avoidance and minimization measures. The |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | biologist shall ensure that this designated biological monitor receives training as outlined above and in the identification of California red-legged frogs and San Francisco garter snakes. The designated biological monitor shall conduct daily inspections prior to the start of work each day as described above.<br><br>If a frog of any kind that could be a California red-legged frog is encountered during project construction, the following protocol will be implemented: 1) the Resident Engineer will be notified; 2) the Resident Engineer will ensure that all work that could result in direct injury, disturbance, or harassment of the individual animal must immediately cease; and 3) the approved-biologist, who will be on-site monitoring construction, will identify the species and may remove the individual to a preapproved safe location nearby, if necessary. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | To offset the approximately 6.81-7.08 acres of potential upland dispersal habitat that will be permanently affected by the project, depending on which Build Alternative is chosen, and the approximately 3.75 acres that will be temporarily affected during construction, the project proposes a mitigation package in cooperation with the Golden Gate National Recreation Area (GGNRA). The GGNRA staff has agreed in concept to this mitigation proposal; however, specific details will need to be approved by the National Park Service (NPS) who owns and manages the GGNRA. The proposed concept is to enhance a 5.14 acre parcel owned by the City of Pacifica that is west of the Pacifica waste water treatment plant and south of the GGNRA.<br><br>In addition to enhancement of the 5.14 acres of upland habitat, the |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | upland habitat will be enhanced from the preserved parcel, over the saddle within the GGNRA (approximately 5.46 acres in size), and down to a bowl area adjacent to GGNRA California red-legged frog breeding ponds.<br><br>Installation of WEF and ESA fencing will cause damage to sensitive and steeply sloping habitat, and thus, these measures will not be implemented during enhancement activities at the mitigation site. However, the following measures are included as part of the project and will minimize effects to California red-legged frogs during construction of the enhancement features.<br><br>*Measure 1: Pre-construction Survey and Construction Monitoring of Mitigation Enhancement Installation.* Prior to installation of enhancement features in the mitigation area, a pre-construction |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | survey will be conducted by a qualified biologist in the portions of the mitigation area where equipment and construction activities will be located. Additionally, a qualified biologist will monitor during development and enhancement of the mitigation area, searching the path and placement locations immediately before equipment is moved or workers advance. California red-legged frogs found within the construction area may be relocated by the approved biologist to a safe location nearby, preapproved by the USFWS, if necessary.<br><br>*Measure 2: Construction Area Limitation.* All construction personnel, equipment, and vehicle movement shall be confined within the minimum construction, access, and staging areas necessary for construction.<br><br>*Measure 3: Construction Worker* |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | *Education Program.* Before any construction activities begin, a qualified biologist will conduct a training session with construction personnel to describe the California red-legged frogs, its habitat, its conservation status, the specific measures being implemented to minimize effects to the species, and the boundaries of the Project area. *Measure 4: Inspection and Discovery.* While on-site in compliance with Measure 1, a qualified Biologist, serving as a Biological Monitor, will inspect the areas within the construction zone, focusing in pits and under equipment and materials left overnight. If a frog thought to be a red-legged frog is encountered during project construction, the following protocol will be implemented:<br>1) the Resident Engineer will be notified; 2) the Resident Engineer will ensure that all work that could result in direct injury, disturbance, |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | or harassment of the individual animal must immediately cease; and 3) the approved-biologist, who will be on-site monitoring construction, will identify the species and may remove the individual to a preapproved safe location nearby, if necessary.<br><br>As a part of the project, areas of temporary habitat loss shall be seeded with native plants to reestablish habitat of equal value within one year of construction.<br><br>As a part of the project, areas of temporary habitat loss shall be seeded with native plants to reestablish habitat of equal value within one year of construction.<br><br>Take of California red-legged frogs or San Francisco garter snakes is only permitted through consultation with the USFWS. Section 7 consultation with the USFWS has been completed with issuance of the |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | BO from the USFWS. |
| Effect on San Francisco Garter Snake | No effect. | The presence of San Francisco garter snakes is unlikely; however they could occur within the project construction area. The project would not result in direct permanent or temporary effects to aquatic, riparian, or wetland habitats used by San Francisco garter snakes. Construction of the proposed project would disturb ruderal grassland and non-native woodland habitat between Mori Point Road and San Marlo Way that could be used for dispersal by garter snakes. | The Landscaped Median Build Alternative would result in similar effects to San Francisco garter snakes as the Narrow Median Build Alternative. | The same mitigation measures described above for California red-legged frogs are proposed, with the exception that if any San Francisco garter snakes are found on-site during construction, the snake will be allowed to leave on its own accord. |
| Effect on American Peregrine Falcon and Bank Swallow | No effect. | The project would not affect American peregrine falcon and bank swallow. | Same as Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. |
| **Invasive Species (Section 2.21)** | | | | |
| Effect on Invasive Plant Species | No effect. | None of the species on the California list of noxious weeds is currently used by the Department | Same as Narrow Median Build Alternative. | The following avoidance and minimization measures are |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | for erosion control or landscaping in San Mateo County. Therefore, the project is very unlikely to propagate invasive species in the site area. | | proposed:<br><br>Landscaping and erosion control included in the project will not use species listed as noxious weeds.<br><br>Prior to grading, infested areas will be cleared of vegetation and all vegetative material destroyed off-site, taking care to prevent any seed dispersal in the process.<br><br>Native local seed (within the same watershed if practicable) from a seed distributor will be planted and/or hydroseeded on all disturbed ground.<br>All areas of ground disturbance within the project area will be monitored and maintained for a period of at least five years following project implementation. Maintenance may include removal of re-sprouts, treatment of cut invasive trees with systemic herbicides, and removal of seedlings. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | |
| **Short-Term Construction Impacts (Section 2.22)** | | | | |
| Traffic and Transportation/ Pedestrian and Bicycle Facilities | No effect. | Narrowed lanes on SR 1 through the construction zone will be likely during several phases of construction, and at times the roadway will be temporarily shifted to allow work on other portions.<br><br>The existing Class I two-way bicycle/pedestrian path adjacent to the west edge of the highway north of Reina Del Mar Avenue would be would be upgraded by widening it from 8 feet to 10 feet, by increasing the separation between edge of path and edge of traveled way from 9 feet to 16 feet, and by installing a fence to provide a physical separation between the bicycle path and the highway. | Because the nature of the construction work would be similar, the Landscaped Median Build Alternative would result in similar construction effects as the Narrow Median Build Alternative. | The following avoidance and minimization measures are proposed:<br><br>Prior to construction, a Transportation Management Plan (TMP) will be prepared. The TMP will address all traffic-related aspects of construction including, but not limited to, the following: traffic handling in each stage of construction, pedestrian safety/access, and bicycle safety/access. A component of the TMP will involve public dissemination of construction-related information through notices to the neighborhoods, press releases, and the use of changeable message signs. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | No roadway or driveway access to businesses is expected to be severed during the construction of the project. | | |
| Water Quality and Storm Water Runoff | No effect. | Excavation and grading activities have the potential to degrade water quality in the form of sedimentation, erosion, and fuels/lubricants from equipment. | Because the nature of the construction work would be similar, the Landscaped Median Build Alternative would result in similar construction effects as the Narrow Median Build Alternative. | The following avoidance and minimization measures are proposed:<br><br>Best Management Practices (BMPs) will be utilized by the contractor(s) during construction. The BMPs will be incorporated into a Storm Water Pollution Prevention Plan for the project, as required by the Caltrans NPDES permit and the NPDES permit for general construction activities.<br><br>Soil stabilization measures are also included.<br><br>Temporary cover of disturbed surfaces or temporary slope protection measures will be provided per regulatory requirements and Caltrans' guidelines to help control erosion. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | In order to prevent the tracking of mud and dirt offsite, stabilized construction entrances/exits will be placed at multiple points throughout the project area. Street sweeping will also be utilized to remove tracked sediment. |
| Air Quality | No effect. | Construction-related dust and air emissions, including fine particulate matter ($PM_{10}$ and $PM_{2.5}$), are generally short-term in duration but may still cause adverse air quality effects unless proper emission control measures are implemented. | Because the nature of the construction work would be similar, the Landscaped Median Build Alternative would result in similar construction effects as the Narrow Median Build Alternative. | The following avoidance and minimization measures are proposed:<br><br>The Department's Standard Provisions to construction contracts would minimize air quality effects. These include requiring emission controls on construction equipment and spraying water on exposed surfaces to minimize dust. |
| Noise and Vibration | No effect. | Construction activities would temporarily increase noise levels in the site vicinity. | Because the nature of the construction work would be similar, the Landscaped Median Build Alternative | The following avoidance and minimization measures are proposed: |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | would result in similar construction effects as the Narrow Median Build Alternative. | The Department's Standard Provisions to construction contracts would control and minimize noise during project construction. These can include, but are not limited to those listed in Section 2.22.4.2. |
| **Cumulative Impacts (Section 2.23)** | | | | |
| Cumulative Traffic and Transportation Effects | No effect. | Traffic on SR 1, Fassler Avenue, Reina Del Mar Avenue, and in the project area as a whole, is currently congested during the morning and evening commute periods. Future increases are projected to occur due to regional growth, which will exacerbate existing congestion issues. The improvements that would be constructed under either Build Alternative would not contribute toward this increase in traffic volumes; rather, they would improve traffic operations for these vehicle trips. Therefore, the project would not result in a substantial cumulative traffic | Same as Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | effect. | | |
| Cumulative Visual and Aesthetics Effects | No effect. | The Narrow Median Build Alternative would remove mature landscape trees along the western side of SR 1, between San Marlo Way and Reina Del Mar Avenue. This change will be visible from the roadway itself, as well as from many locations on the east side of SR 1. (It should be noted that while the Build Alternatives would result in the removal of these trees, which are a visual resource along the alignment, removal of these trees would also improve the views of the coastal areas from locations east of SR 1.)<br><br>Although the above-described visual effects of the project will be substantial, there will be no cumulative visual effects at these locations because there are no other recently-constructed, approved, and/or pending projects that would contribute to this effect. | Similar to the Narrow Median Build Alternative. Because of the wider footprint, the Landscaped Median Build Alternative would affect one additional mature tree (at station 47+50) on the east side of SR 1. | No avoidance, minimization, or mitigation measures are proposed. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | |
| Cumulative Air Quality Effects | No effect. | The Narrow Median Build Alternative will not contribute to the region's emissions because it will not generate additional vehicle trips or lead to unplanned growth. Rather, the project is expected to reduce area-wide emissions by decreasing congestion and vehicle delay. Therefore, the cumulative air quality effect would not be substantial. | Same as Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. |
| Cumulative Noise and Vibration Effects | No effect. | The Narrow Median Build Alternative would incrementally contribute to overall noise levels; however, future increases in noise will not be substantial. Therefore, the cumulative noise effect would not be substantial. | Same as Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. |
| Cumulative Effects on Biological Environment and Resources | No effect. | The proposed Narrow Median Build Alternative would not directly affect natural communities of concern, such as riparian or aquatic habitats. The project will | Same as Narrow Median Build Alternative. | No avoidance, minimization, or mitigation measures are proposed. |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | not create new substantial barriers to the movement of wildlife and/or fish passage. The project will not affect wetland habitat or other waters in the vicinity of the proposed roadway improvements.<br><br>With the mitigation measures outlined in Sections *2.16, Natural Communities, 2.16, Wetlands and Other Waters, 2.18, Plant Species, 2.19, Animal Species, 2.20, Threatened and Endangered Species, and 2.21, Invasive Species*, of this document, the project will not affect any special-status plant species. In addition, there are no other recently-constructed, approved, and/or pending projects that would contribute to the cumulative loss of biological resources in this area.<br><br>For these reasons, while the proposed Build Alternatives would have effects of their own, the project would not result in | | |

**TABLE S-1**

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Environmental Consequences | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | substantial cumulative biological resources effects. | | |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| **Land Use (Section 2.1)** | | | | |
| Effects on Adjacent Land Uses | No impact. | No Impact. | No Impact. | No avoidance, minimization, or mitigation measures are proposed or required. |
| Consistency with Plans and Programs | Inconsistent with local and regional transportation plans. | No Impact. | No Impact. | No avoidance, minimization, or mitigation measures are proposed or required. |
| **Growth (Section 2.2)** | | | | |
| Potential to Induce Growth | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No avoidance, minimization, or mitigation measures are proposed or required. |
| **Relocations and Real Property Acquisition Section 2.3)** | | | | |
| Number of Residential Relocations | No Impact. | No Impact. | No Impact. | No avoidance, minimization, or mitigation measures are proposed or required. |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| **Environmental Justice (Section 2.4)** | | | | |
| Effects on Minority and Low-Income Populations | No Impact. | No Impact. | No Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| **Utilities and Emergency Services (Section 2.5)** | | | | |
| Effect on Utilities | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| Effect on Emergency Services | No Impact. | No Impact. | No Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| **Traffic and Transportation (Section 2.6)[3]** | | | | |
| Effect on SR 1 and Intersection Operations | No Impact. | No Impact. | No Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| Pedestrian Facilities | No Impact. | No Impact. | No Impact. | No avoidance, minimization, or mitigation measures are proposed. |

[3] This section summarizes the information contained in Section 2.6 and Section 2.22 of the EIR/EA, as well as in the Project Report.

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | |
| Bicycle Facilities | No Impact. | No Impact. | No Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| **Visual/Aesthetics (Section 2.7)** | | | | |
| Effects on Visual and Aesthetic Character | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as summarized below.<br><br>Aesthetic treatment will be considered for all structures associated with the proposed project.<br><br>Including landscaping in the median for the project will provide aesthetic benefit.<br><br>Replacement planting shall be implemented per Chapter 29 (Highway Planting) of the Department's *Project Development Procedures Manual* and Chapter 900 (Landscape Architecture) of the |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | Department's *Highway Design Manual*. |
| Light and Glare | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as summarized below.<br><br>Nighttime construction lighting shall be directed downward, towards the construction area, away from sensitive land uses, such as nearby residences. Nighttime lighting will also be directed away from the GGNRA's land surrounding the project site during construction. |
| **Cultural Resources (Section 2.8)** | | | | |
| Effects on Archaeological Resources | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as summarized below.<br><br>Two separate Environmental Sensitive Areas (ESAs) are included |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | as part of the project as avoidance measures and will be maintained for each resource.<br><br>The project also includes additional minimization measures in the event buried cultural materials are discovered during construction. |
| Effects on Historic Resources | No Impact. | No Impact. | No Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| **Hydrology and Floodplain (Section 2.9)** | | | | |
| Effects of Flooding | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as summarized below.<br><br>Standard construction BMPs will be implemented to minimize the amount of runoff to water bodies and wetlands. The project will also include permanent treatment BMPs, biofiltration swales, and bio-strips |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | to treat stormwater originating on-site before it reaches water bodies, wetlands, or storm drain systems. |
| **Water Quality and Storm Water Runoff (Section 2.10)** | | | | |
| Storm Water Quality | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as summarized below.<br><br>The design of the project includes Best Management Practices (BMPs) to reduce the pollutant component of stormwater runoff, as required by the Caltrans NPDES permit and the NPDES permit for general construction activities (see above discussion). In addition to the requirements of the NPDES permit, compliance with the requirements of the Caltrans Stormwater Management Plan (SWMP) is also required. |
| | | | | |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| **Geology/Soils/Seismic/Topography (Section 2.11)** | | | | |
| Geologic Hazards | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No additional avoidance, minimization, or mitigation measures are proposed. |
| **Paleontology (Section 2.12)** | | | | |
| Effects on Paleontological Resources | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimizations measures for paleontological resources are proposed in accordance with Caltrans' Standard Environmental Reference Guidelines (Caltrans, 2007) for those areas where ground-disturbing activities may take place. |
| **Hazardous Waste/Materials (Section 2.13)** | | | | |
| Presence of Hazardous Materials or Hazardous Waste | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as summarized below.<br><br>Complete a soils investigation prior to project development. |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | Prepare a health and safety plan.<br><br>Complete a groundwater investigation prior to project development. |
| Exposure to Aerially-Deposited Lead (ADL), Asbestos-Containing Materials, and/or Lead-Based Paint | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as summarized below.<br><br>Complete a soil investigation to determine whether aerially-deposited lead (ADL) has affected soils prior to project development.<br><br>Complete soil sampling for asbestos.<br><br>Complete asbestos-containing material surveys following National Emissions Standards for Hazardous Air Pollutants (NESHAP) |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | guidelines. |
| **Air Quality (Section 2.14)** | | | | |
| Conformance with Clean Air Act | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| Effect on Emissions of Carbon Monoxide | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| Effect on Emissions of $PM_{10}$ and $PM_{2.5}$ | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| Effect on Emissions of Air Toxics | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| **Noise and Vibration (Section 2.15)** | | | | |
| Changes in Noise Levels | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| Noise Levels Exceed Noise | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No avoidance, minimization, or mitigation measures are proposed. |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| Abatement Criteria? | | | | |
| **Natural Communities (Section 2.16)** | | | | |
| Effect on Natural Communities of Concern | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as summarized below<br><br>All temporary staging areas and construction access roads will be located in upland areas or existing developed areas out of wetland, aquatic and riparian habitats.<br><br>No equipment will be operated in the live stream channel of Calera Creek.<br><br>The boundaries of the project will be clearly delineated with orange-colored plastic construction fencing (ESA). |
| **Wetlands and Other Waters (Section 2.17)** | | | | |
| Effect on | No Impact. | Less Than Significant Impact. | Less Than Significant | Avoidance and minimization |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| Wetlands or Other Waters | | | Impact. | measures are proposed, as summarized below.<br><br>As described in Section *2.10.3 Water Quality and Stormwater Runoff, Environmental Consequences*, in compliance with Caltrans' NPDES permit, the project includes feasible BMPs to treat stormwater runoff and control pollutants in runoff during the construction and post-construction periods. |
| **Plant Species (Section 2.18)** | | | | |
| Effect on Special-Status Plant Species | No Impact. | No Impact. | No Impact | No avoidance, minimization, or mitigation measures are proposed. |
| **Animal Species (Section 2.19)** | | | | |
| Effect on Special-Status Animal | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | The same mitigation measures included in the project for |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| Species | | | | California red-legged frogs and San Francisco garter snakes in Section *2.20 Threatened and Endangered Species*, would reduce the potential for individual turtles to be affected by construction activities. |
| Effect on Nesting Migratory Birds | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as summarized below.<br><br>Remove potential nesting substrate during the non-breeding season (removal between September 1 and February 1), if feasible, to preclude nesting.<br><br>If it is not feasible to schedule vegetation removal during the non-breeding season, then conduct pre-construction surveys for nesting birds<br><br>If an active nest is found determine the extent of a buffer zone to be |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | established around the nests.<br><br>If construction activities cease for more than one week during the nesting season and nesting habitat for these species remains, additional preconstruction surveys will be conducted.<br><br>If it is necessary to conduct pre-construction surveys for nesting birds for vegetation removal during the nonbreeding season, the surveys will cover all bird species present. |
| **Threatened and Endangered Species (Section 2.20)** | | | | |
| Effect on California Red-Legged Frog | No Impact. | Less Than Significant Impact with Mitigation. | Less Than Significant Impact with Mitigation. | Mitigation measures are proposed, as summarized below.<br><br>Minimize nighttime work.<br><br>Install wildlife exclusion fencing (WEF). |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | Conduct pre-construction surveys.<br><br>Delineate construction area with orange-colored plastic construction fencing (ESA).<br><br>Conduct a construction worker education program.<br><br>Avoid inadvertent entrapment of animals during construction.<br><br>Inspect WEF area and follow protocol for discovery of frog.<br><br>Apply compensatory mitigation for habitat impacts.<br><br>Include measures to minimize effects to California red-legged frogs during construction of the enhancement features.<br><br>Re-seed with native plants to reestablish habitat of equal value |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | within one year of construction.<br><br>Take of California red-legged frogs or San Francisco garter snakes is only permitted through consultation with the USFWS. Section 7 consultation with the USFWS has been completed with issuance of the BO from the USFWS. |
| Effect on San Francisco Garter Snake | No Impact. | Less Than Significant Impact with Mitigation. | Less Than Significant Impact with Mitigation. | Same as mitigation measures described above for California red-legged frogs are proposed, with the exception that if any San Francisco garter snakes are found on-site during construction, the snake will be allowed to leave on its own accord. |
| Effect on American Peregrine Falcon and Bank Swallow | No Impact. | No Impact. | No Impact. | No avoidance, minimization, or mitigation measures are proposed. |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| **Invasive Species (Section 2.21)** | | | | |
| Effect on Invasive Plant Species | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as summarized below.<br><br>Landscaping and erosion control included in the project will not use species listed as noxious weeds.<br><br>Prior to grading, infested areas will be cleared of vegetation and all vegetative material destroyed off-site, taking care to prevent any seed dispersal in the process.<br><br>Native local seed (within the same watershed if practicable) from a seed distributor will be planted and/or hydroseeded on all disturbed ground. |
| **Short-Term Construction Impacts (Section 2.22)** | | | | |
| Traffic and Transportation/ | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| Pedestrian and Bicycle Facilities | | | | summarized below.<br><br>Prior to construction, a Transportation Management Plan (TMP) will be prepared. |
| Water Quality and Storm Water Runoff | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as summarized below.<br><br>Utilize BMPs during construction.<br><br>Implement soil stabilization measures.<br><br>Implement sediment control measures.<br><br>Implement tracking controls. |
| Air Quality | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as summarized below.<br><br>Utilize the Department's Standard |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| | | | | Provisions to construction contracts to minimize air quality impacts. |
| Noise and Vibration | No effect. | Less Than Significant Impact. | Less Than Significant Impact. | Avoidance and minimization measures are proposed, as summarized below.<br><br>Utilize the Department's Standard Provisions to construction contracts to control and minimize noise during project construction. |
| **Cumulative Impacts (Section 2.23)** | | | | |
| Cumulative Traffic and Transportation Effects | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| Cumulative Visual and Aesthetics Effects | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| Cumulative Air Quality Effects | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No avoidance, minimization, or mitigation measures are proposed. |

**TABLE S-2**

**SUMMARY OF CEQA SIGNIFICANCE FINDINGS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

| Impact Determinations under CEQA | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Avoidance, Minimization and/or Mitigation Measures |
|---|---|---|---|---|
| Cumulative Noise and Vibration Effects | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No avoidance, minimization, or mitigation measures are proposed. |
| Cumulative Effects on Biological Environment and Resources | No Impact. | Less Than Significant Impact. | Less Than Significant Impact. | No avoidance, minimization, or mitigation measures are proposed. |

## S.6 Coordination with Public and Other Agencies

Construction of the proposed project will require permits/approvals from the governmental agencies listed below.

| PERMITS AND APPROVALS NEEDED | | |
|---|---|---|
| **Agency** | **Permit/Approval** | **Status** |
| California Coastal Commission | Coastal Development Permit for work extending onto California Coastal Commission jurisdiction | Application will be submitted during final design |
| U.S. Fish and Wildlife Service | Biological Opinion | USFWS issued the BO for this project in January 2012 |
| Regional Water Quality Control Board | Compliance with the Caltrans and the General Construction Section 402 National Pollutant Discharge Elimination System (NPDES) permits | Compliance with the Department's Storm Water Management Plan (SWMP) and submittal of a Notice of Construction (NOC) to the RWQCB to obtain coverage under the Construction General Permit |
| City of Pacifica | Local Coastal Plan (LCP) Permit for work extending into the LCP area | Application will be submitted during final design |
| San Mateo County Transportation Authority (SMCTA) | Measure A Funding Approval | Funding during final design |
| State Transportation Improvement Program (STIP) | Funding Approval | Funding during final design |
| Golden Gate National Recreation Area (GGNRA) | Approval of use of lands for mitigation | Agreed to in concept – finalized after EIR process completed |

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# CHAPTER 1 PROPOSED PROJECT

## 1.1 INTRODUCTION

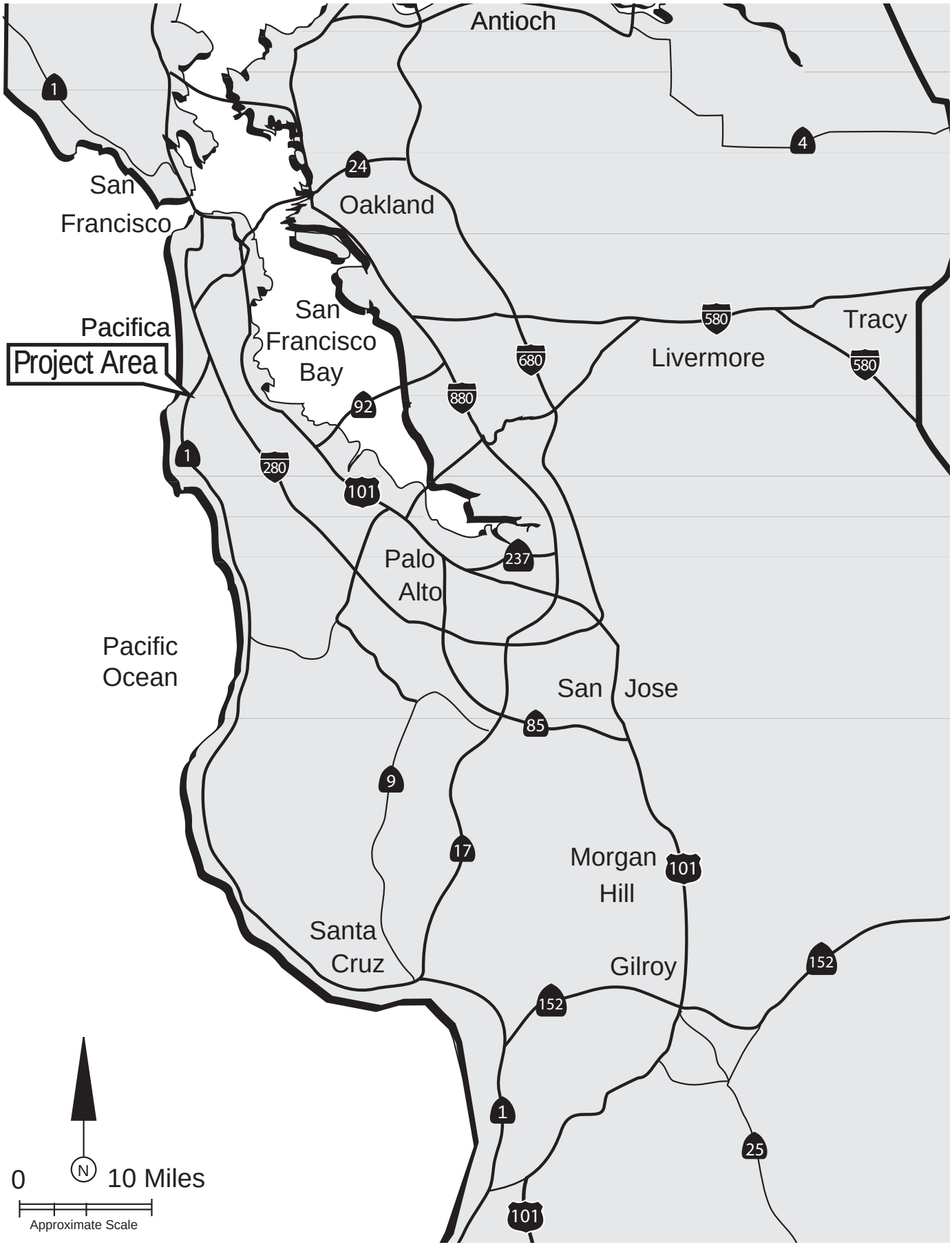
The California Department of Transportation ("Department" or "Caltrans"), in conjunction with the San Mateo County Transportation Authority (SMCTA) and the City of Pacifica, proposes to widen Highway 1/State Route 1/Calera Parkway (hereinafter referred to as "SR 1") in the city of Pacifica from four lanes to six lanes through the project limits. The portion of SR 1 proposed for widening is located between 400 feet and 3,200 feet east of the Pacific Ocean within the city of Pacifica and extends from approximately 1,500 feet south of Fassler Avenue to approximately 2,300 feet north of Reina Del Mar Avenue, a distance of approximately 1.3 miles.

The city of Pacifica is a coastal city located in northern San Mateo County. The city of Daly City is located to the north; the city of Montara is located to the south; and the city of San Bruno is located to the east. Residential and commercial uses are located along the east side of the project alignment. The Rockaway Beach commercial district, a former quarry, and Pacifica's sewer treatment plant are located to the west of the alignment. Golden Gate National Recreation Area property is located to the east and west of the alignment, near Mori Point. Regional and vicinity maps of the project area are shown in Figures 1.1 and 1.2, respectively. An aerial photograph showing the site and surrounding land uses is shown on Figure 1.3.

The segment of SR 1 proposed for widening operated as a two-lane highway until 1965, when it was widened to a four-lane conventional highway with no median. In 1993, a median barrier was installed as a safety improvement. The existing roadway is four lanes with four-foot minimum outside shoulders, and a six-foot wide median with a concrete barrier.

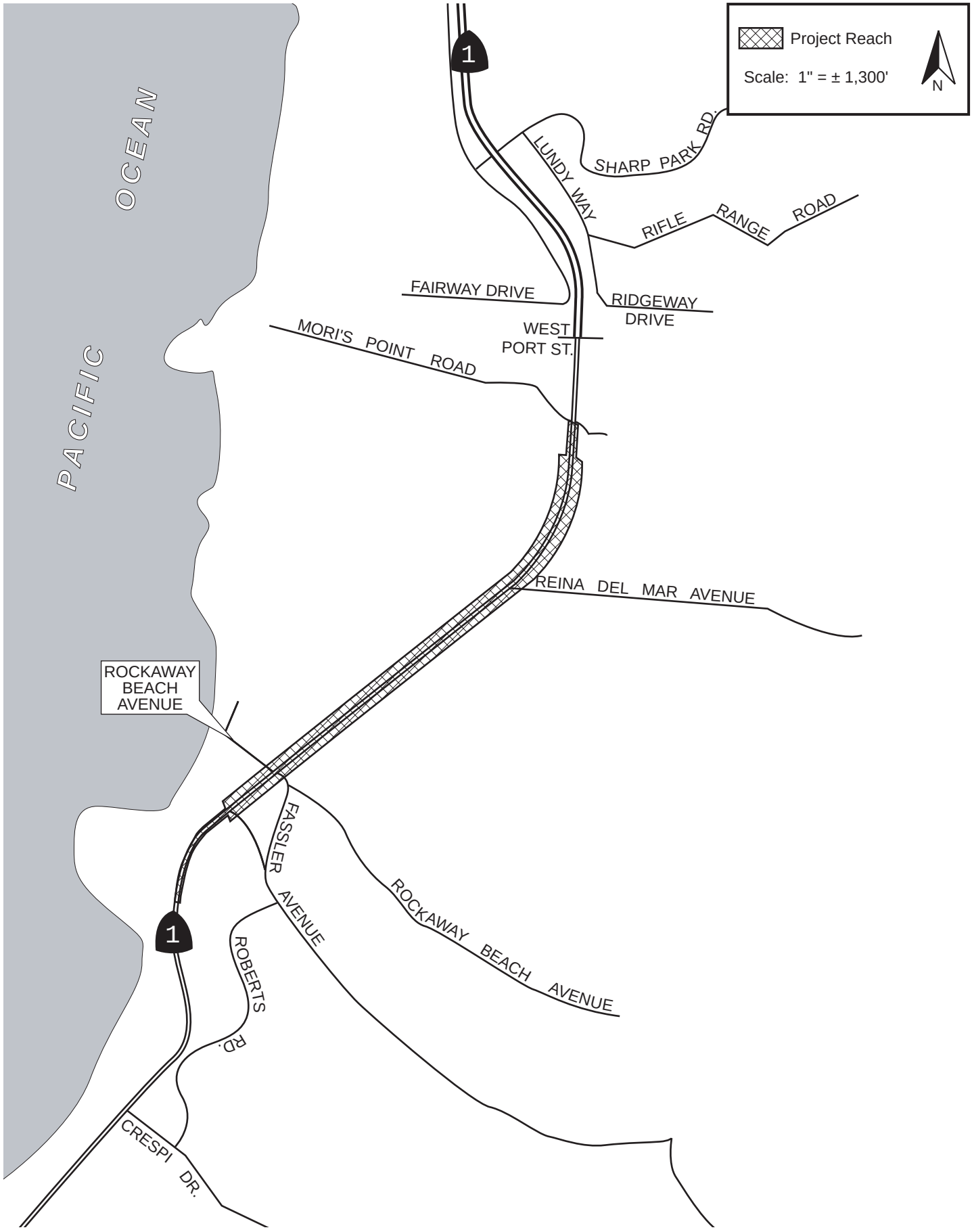
In 1988, voters of San Mateo County approved a 20-year half-cent sales tax measure known as Measure A. Measure A was extended for another 25 years in 2004. Measure A funds have been allocated towards projects throughout the County, including transit, local streets, paratransit programs and highway improvements. The SMCTA administers Measure A projects and programs. A Project Study Report (PSR) was completed for the proposed operational improvements to SR 1 by the City of Pacifica and approved by Caltrans in July 1999. The 1999 PSR proposed to add one additional lane in each direction between Fassler Avenue and Reina Del Mar Avenue with a transition from three (3) lanes back to two (2) lanes occurring just past the intersections in each direction.

The Metropolitan Transportation Commission's (MTC's) current Regional Transportation Plan (RTP) for the San Francisco Bay Area, known as *Transportation 2035*, was adopted by MTC on April 22, 2009. The project is included in the approved Transportation Plan 2035. The project is also included in the adopted 2011 Transportation Improvement Program (TIP) for the San Francisco Bay Area.



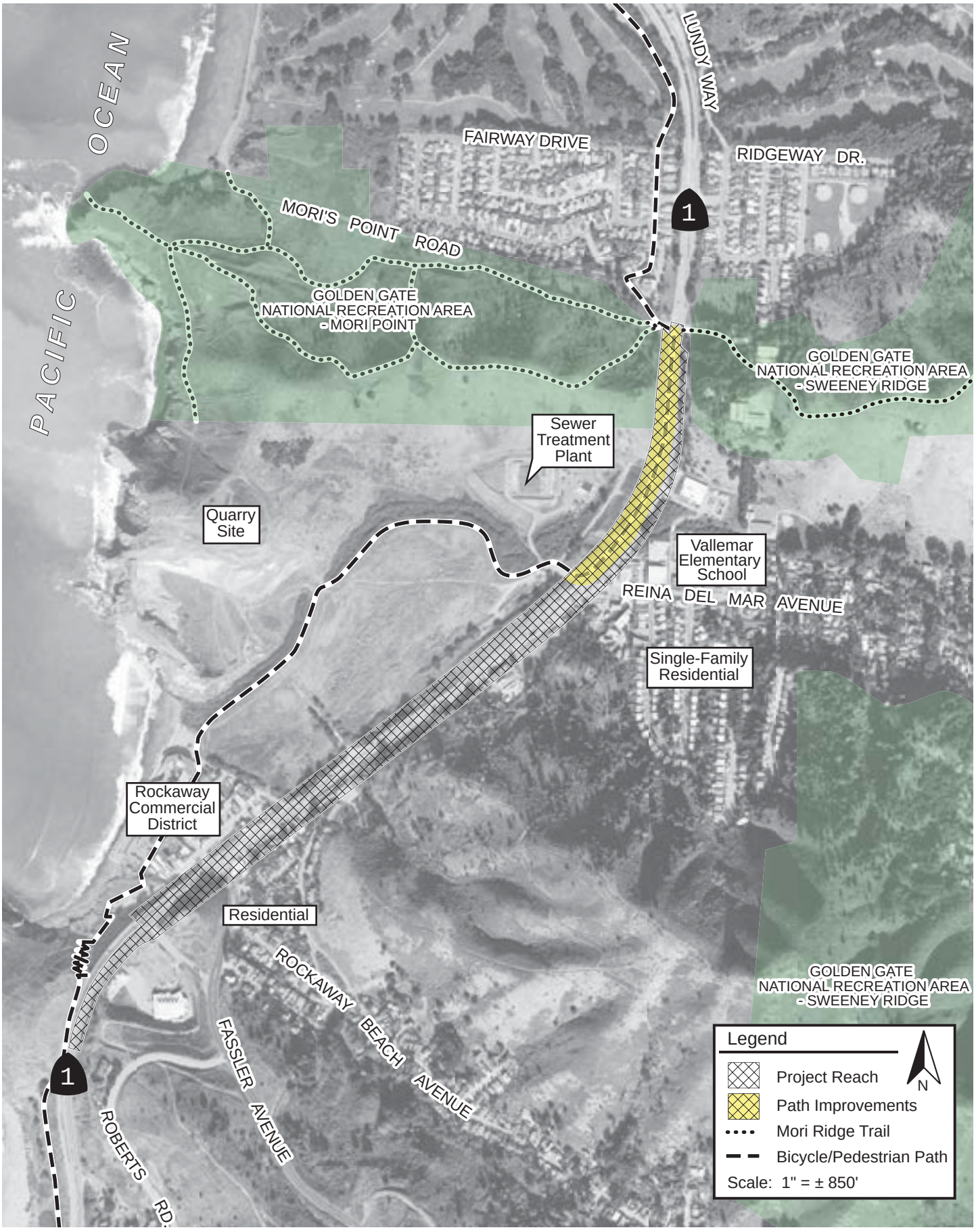

REGIONAL MAP

FIGURE 1.1




VICINITY MAP

FIGURE 1.2




AERIAL PHOTOGRAPH

FIGURE 1.3

## 1.2 PURPOSE AND NEED FOR THE PROPOSED PROJECT

### 1.2.1 Purpose of the Proposed Project

The proposed project has the following purpose:

- The purpose of the proposed project is to improve traffic operations by decreasing traffic congestion and improving peak-period travel times along a congested segment of SR 1 within the city of Pacifica.

### 1.2.2 Need for the Proposed Project

#### *1.2.2.1 Current Conditions*

SR 1 is the only north/south route option for the small communities located along the coast, including Pacifica, Montara, Moss Beach, and El Granada. It serves as both a regional recreation access route to the coastal beaches and as the major local arterial for the coast side residents. It is the only north/south route along this portion of the state for travelers and commuters. There is no reasonable alternate parallel route to SR 1 for travelers and residents along this portion of the highway.

Pacifica is mainly a bedroom community, but is also attractive as a recreational area because of the coastal views, beach access, and the varying topography of the landscape. Fishing, surfing, and the beach are the primary recreation attractions, with peak beach days occurring when other areas of the state experience high temperatures and the summer vacation season, during which time the beaches are crowded, especially on the weekends.

Overall, the segment of SR 1 from Fassler Avenue/Rockaway Beach Avenue to Reina Del Mar in Pacifica currently experiences substantial delay and congestion through the study area. The traffic analysis (dated July 2008) and subsequent addenda (dated December 2009, June 2010, and April 2011) show that the current morning (AM) peak period congestion along SR 1 occurs between 7:00 am and 9:00 am, primarily in the northbound (NB) direction with traffic queues (back ups) extending up to 1.15 miles from the Reina Del Mar Avenue intersection south to Crespi Drive. Morning queues also extend east on Fassler Avenue as much as 2,500 feet and east on Reina Del Mar Avenue as much as 1,000 feet for local traffic trying to enter SR 1 from these cross streets.

The evening (PM) peak period congestion occurs between 4:00 pm and 6:00 pm, primarily in the southbound (SB) direction with traffic queues extending up to 2.06 miles on SR 1 from the Fassler Avenue/Rockaway Beach Avenue intersection to north of Sharp Park Road.

The signalized intersections within the city of Pacifica are operated by Caltrans, however it has traditionally been Caltrans' policy to adhere to locally adopted operational performance standards. The City of Pacifica has adopted a standard of LOS D[4] or better for signalized intersections. The existing signalized intersection LOS condition at SR 1/Reina Del Mar Avenue operates at LOS E

[4] Roadway performance is typically measured using the "level of service" (LOS) concept, whereby traffic demand is evaluated in the context of capacity. Level of service is a graded scale and ranges from "LOS A," representing free-flow conditions, to "LOS F," representing jammed/over-saturated conditions. Refer also to Table 2.2 in Section *2.6, Traffic and Transportation/Pedestrian and Bicycle Facilities*, for LOS definitions.

during the AM peak hour and LOS F during the PM peak hour, while the existing signalized intersection LOS condition at SR 1/Fassler Avenue/Rockaway Beach Avenue operates at LOS F during both the AM and PM peak hours (see Table 1.1). Therefore these intersections currently operate unacceptably, based on the City of Pacifica's performance standards.

**TABLE 1.1**
**EXISTING PEAK-HOUR INTERSECTION LEVELS OF SERVICE**

| | Peak-Hour | Delay | LOS |
|---|---|---|---|
| SR1 @ Reina Del Mar Avenue | AM | 66 | E |
| | PM | 138 | F |
| SR1 @ Fassler Avenue | AM | 195 | F |
| | PM | 117 | F |

Source: SR 1/Calera Parkway Project Traffic Operations Report, 2008.

Table 1.2 below shows the existing peak period queue lengths on SR 1 at the Reina Del Mar Avenue and Fassler Avenue/Rockaway Beach Avenue intersections, as well as peak period travel times on SR 1 through the project area.

**TABLE 1.2**
**EXISTING SR 1 TRAVEL TIMES AND QUEUE LENGTHS[1]**

| | Travel Time (minutes)* | Average Reina Del Mar Avenue Queue (feet) | Maximum Reina Del Mar Avenue Queue (feet) | Average Fassler Avenue Queue (feet) | Maximum Fassler Avenue Queue (feet) |
|---|---|---|---|---|---|
| AM Northbound | 5.1 | 1,031 | 2,805 | 1,535 | 3,260 |
| PM Southbound | 8.4 | 2,929 | 7,685 | 2,478 | 3,206 |

Travel times measured from just north of Crespi Drive to just north of Reina Del Mar Avenue (for AM Northbound, a distance of 1.6 miles), and from about 1.8 miles north of Reina Del Mar Avenue to just south of Fassler Avenue (for PM Southbound, a distance of 2.5 miles).

[1] The individual queues on SR 1 for Fassler and Reina Del Mar should be summed to get the total queue. For example, in the AM peak hour, the northbound maximum Reina Del Mar queue is 2,805 feet. This represents the distance from Reina Del Mar to Fassler Avenue. The AM northbound maximum Fassler queue of 3,260, represents the queue from Fassler Avenue south. The total northbound queue is 2,805 + 3,260 feet, or 6,065 feet (1.15 miles). It is presented this way because in the "with project" scenarios, the two intersections operate more independently and the queues are indeed separate as opposed to the single long queue seen in the "no build" scenarios.
Source: SR 1/Calera Parkway Project Traffic Operations Report, 2008.

Examining the entire network, the average delay per vehicle that travels through the network can also be determined, whether that vehicle travels through one or both intersections. The average current

time delay[5] per vehicle traveling through the project roadway network is 127 seconds in the AM peak hour and 128 seconds in the PM peak hour.[6]

#### *1.2.2.2 Future "No Project" Conditions*

With no improvements to the project area, congestion in the area is projected to increase both in magnitude and duration. Specifically, the traffic projections forecast that by year 2035 the peak period maximum queues will grow, nearly doubling from 1.15 miles to 2.28 miles in the AM peak period and increasing from 2.06 miles to 2.80 miles in the PM peak period, which will substantially increase travel times by approximately six minutes (see Table 1.3). The increased magnitude of the congestion will also increase the duration of both the AM and PM peak periods.

**TABLE 1.3**
**FUTURE NO BUILD TRAVEL TIMES AND QUEUE LENGTHS**

| | | Travel Time[7] (minutes) | Avg Queue Length on SR 1 at Reina Del Mar Avenue (feet) | Avg Queue Length on SR 1 at Fassler Avenue (feet) |
|---|---|---|---|---|
| Year 2015 | AM – Northbound | 5.9 | 1,074 | 4,361 |
| | PM – Southbound | 9.5 | 4,893 | 2,627 |
| Year 2035 | AM – Northbound | 12.6[8] | 1,095 | 4,946 |
| | PM – Southbound | 15.4[3] | 6,907 | 2,567 |

Notes: This table shows the travel times in minutes and vehicle queue (i.e., vehicle waiting lines) lengths along the project area route during the AM and PM peak hour in the northbound and southbound directions of State Route 1. For AM northbound, the distance is 1.6 miles and for PM southbound the distance is 2.5 miles.
Source: Fehr & Peers, 2007-2011.

By 2035, if no roadway improvements are made, the SR 1/Fassler Avenue/Rockaway Beach Avenue intersection is projected to operate at LOS F during the AM and PM peak hours. The SR1/Reina Del Mar Avenue intersection is projected to operate at LOS E during the AM peak hour, and at LOS F during the PM peak hour (see Table 1.4 below). The project need is to alleviate a localized bottleneck only within the project reach, which is projected to deteriorate over the design life of the project.

[5] This is the additional travel time experienced by a driver, passenger or pedestrian due to circumstances that impede the desirable movement of traffic. It is measured as the time difference between actual travel time and free-flow travel time. (2009 AASHTO Transportation Glossary).
[6] Fehr & Peers, SR 1/Calera Parkway Project Traffic Operations Report, July 2008.
[7] Travel times measured from just north of Crespi Drive to just north of Reina del Mar Avenue (for AM Northbound, a distance of 1.6 miles), and from about 1.8 miles north of Reina del Mar Avenue to just south of Fassler Avenue (for PM Southbound, a distance of 2.5 miles).
[8] Queue extends beyond model limits. Length increased to estimate full queue length by adding 25 feet per unserved vehicle. Travel time increased by assuming nine mph average speed in queue.

**TABLE 1.4**
**FUTURE NO BUILD PEAK-HOUR LEVELS OF SERVICE**

| | | Year 2015 | | Year 2035 | |
|---|---|---|---|---|---|
| | | Delay (seconds) | LOS | Delay (seconds) | LOS |
| SR1 @ Reina Del Mar Avenue | AM | 68 | E | 70 | E |
| | PM | 202 | F | 251 | F |
| SR1 @ Fassler Avenue | AM | 345 | F | 389 | F |
| | PM | 124 | F | 112 | F |

Notes: This table shows the peak hour average delay in seconds and level of service operations at the two intersections within the project area; State Route 1/Reina Del Mar Avenue and State Route /Fassler Avenue.
Source: Fehr & Peers, 2007-2011.

### 1.2.3 Independent Utility and Logical Termini

In developing a project concept that can be advanced through the stages of planning, environmental review, design, and construction, the project sponsor needs to consider a "whole" or integrated project. This project should satisfy an identified need such as safety, rehabilitation, economic development, or capacity improvements, and should be considered in the context of the local community concerns and socioeconomics, topography, the future travel demand, and other infrastructure improvements in the area. The Federal Highway Administration (FHWA) regulations outline three general principles at 23 CFR 771.111(f) that are to be used to frame a highway project. In order to ensure meaningful evaluation of alternatives and to avoid commitments to transportation improvements before they are fully evaluated, the action evaluated shall:

(1) Connect logical termini and be of sufficient length to address environmental matters on a broad scope;
(2) Have independent utility or independent significance (i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made); and
(3) Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Logical termini for project development are defined as (1) rational end points for a transportation improvement, and (2) rational end points for a review of the environmental impacts. The environmental impact review frequently covers a broader geographic area than the strict limits of the transportation improvements. In the past, the most common termini have been points of major traffic generation, especially intersecting roadways.

The project has independent utility, which means the proposed improvements can be implemented within the project limits and completion of other projects would not be required in order to realize the operational benefits of the proposed improvements. Establishing independent utility is important to

avoid "project segmentation."[9]

The project has logical starting and ending points or termini. The end points were selected to contain the length of the existing traffic "bottleneck" created by the two signalized intersections at Fassler Avenue/Rockaway Beach Avenue and Reina Del Mar Avenue.[10] All of the proposed roadway improvements necessary under either Build Alternative to improve operations for this segment of SR 1 are included within the project limits.

## 1.3 PROJECT DESCRIPTION

This section describes the proposed action and the design alternatives that were developed to meet the identified need through accomplishing the defined purpose, while avoiding or minimizing environmental impacts. The alternatives are the "Narrow Median Build Alternative," the "Landscaped Median Build Alternative," and the "No-Build Alternative."

The portion of SR 1 proposed for widening is located within the city of Pacifica and extends from approximately 1,500 feet south of Fassler Avenue to approximately 2,300 feet north of Reina Del Mar Avenue, a distance of approximately 1.3 miles. Within the project limits, SR 1 runs diagonal to the Pacific Ocean coast line, varying in distance from approximately 400 feet at the southern end of the project to approximately 3,200 feet at the northern end of the project. This segment of SR 1 operated as a two-lane highway until 1965, when it was widened to a four-lane conventional highway with no median. In 1993 a median barrier was installed as a safety improvement. The existing roadway is four lanes (two through lanes in each direction) with four-foot minimum outside shoulders, and a six-foot minimum width median with a concrete barrier.

As described in Section 1.2, the purpose of the proposed project is to improve traffic operations by decreasing congestion and improving peak-period travel times along a congested segment of SR 1 within the city of Pacifica.

The footprint of the proposed roadway widening has been minimized in order to reduce right-of-way acquisition and to avoid impacts to sensitive biological resource habitats and potential cultural resources (refer to 2.8, *Cultural Resources* and Sections 2.16-2.20, *Biology*, of this EIR/EA, respectively, for additional detail regarding these resources).

## 1.4 PROJECT ALTERNATIVES

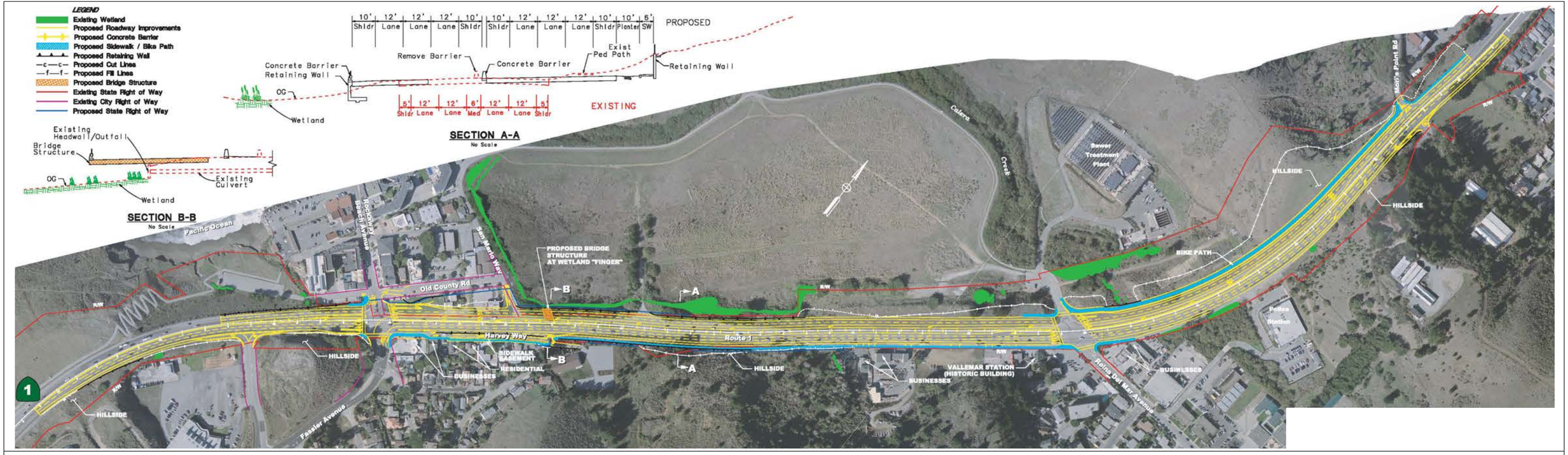
Numerous design alternatives for the project were considered and evaluated for their ability to improve traffic operations, decrease congestion and delay, and improve peak-period travel times along this segment of SR 1, at a reasonable cost, while avoiding or minimizing impacts to the adjacent land uses and coastal zone resources. A variety of design solutions were studies during the

[9] "Project Segmentation" would occur if a project were defined such that the proposed improvements (and/or benefits resulting from the proposed improvements) would be contingent upon the completion of additional projects. NEPA and CEQA require agencies to analyze "the whole of the action" and do not allow a project to be broken into smaller segments unless it can be demonstrated that each of the segments has independent utility.

[10] Shorter roadway segment alternatives were considered but they were not long enough to allow vehicles to merge beyond these intersections, and would not be adequate to meet the purpose and need. Please refer to Section 1.4.8 for further discussion of these shortened roadway length alternatives.

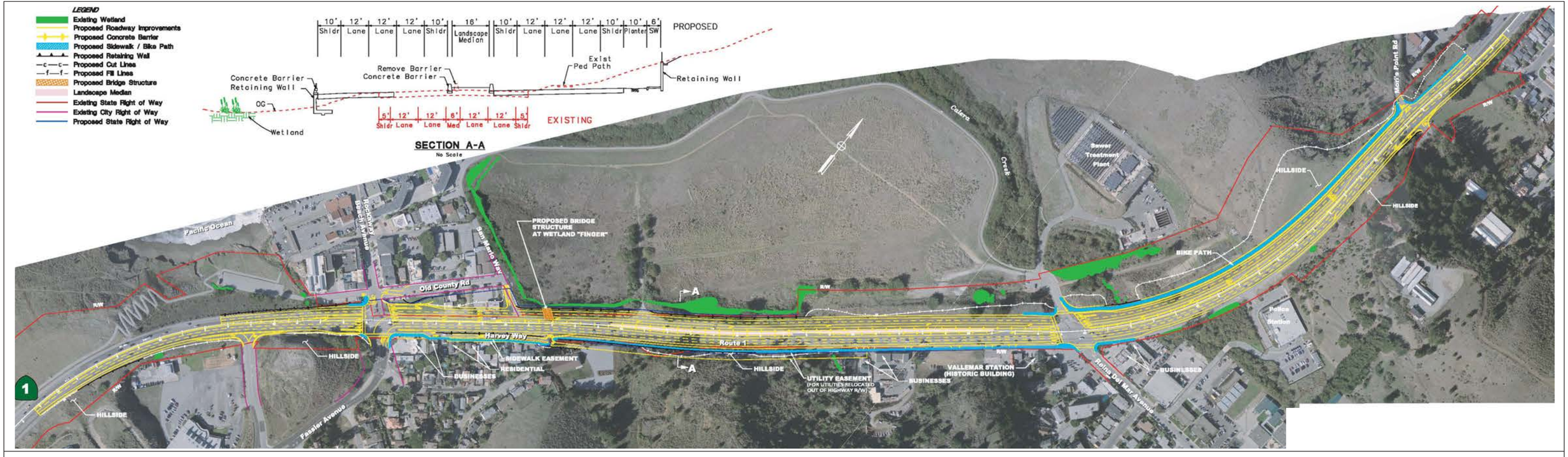
initial project design phase and during the EIR/EA scoping process. Many alternatives were suggested by members of the public during the scoping process.

Given the right-of-way constraints, the Caltrans minimum design criteria, the cost and funding considerations, and the environmental and regulatory constraints at the site such as sensitive habitat areas and adjacent coastal wetlands, there are two Build Alternatives evaluated further in this document. The two Build Alternatives are described in detail below. A brief summary of the other alternatives considered but eliminated from further evaluation is provided in Section 1.4.8 below.




CONCEPTUAL PLAN - NARROW MEDIAN BUILD ALTERNATIVE

FIGURE 1.4




CONCEPTUAL PLAN - LANDSCAPED MEDIAN BUILD ALTERNATIVE

FIGURE 1.5

### 1.4.1 Common Design Features of the Build Alternatives

Under both of the Build Alternatives, the Department, in cooperation with the SMCTA and the City of Pacifica, would construct improvements to SR 1/Calera Parkway, the SR 1/Fassler Avenue/Rockaway Beach Avenue intersection, and the SR 1/Reina Del Mar Avenue intersection within the project reach. The two Build Alternatives would widen this segment of SR 1 from four lanes to six lanes (three lanes in each travel direction) from approximately 1,500 feet south of Fassler Avenue to approximately 2,300 feet north of Reina Del Mar Avenue, a distance of approximately 1.3 miles. This section describes the improvements that are common to both Build Alternatives. The following section describes those improvements that are unique to each Build Alternative. Conceptual plans for the Build Alternatives are shown on Figures 1.4 and 1.5. The main components of the two Build Alternatives are described below.

#### *1.4.1.1 State Route 1 Roadway Widening*

The segment of SR 1 proposed for widening currently consists of two through-lanes in both directions (north/south) with non-standard shoulders (inside and outside) and median widths. The two Build Alternatives would widen this segment of SR 1 from four lanes to six lanes (three lanes in each travel direction). The proposed SR 1 roadway would include three 12-foot-wide through-lanes in each direction, with standard 10-foot inside and outside shoulders. The existing shoulder widths on SR 1 vary from two feet to 10 feet.

To minimize the required widening and to optimize the lane configurations with the traffic patterns, the third southbound lane is added to the left of the two southbound through lanes north of Reina Del Mar Avenue and is dropped at the left turn lanes to Fassler Avenue. Only two lanes extend south of Fassler Avenue.

Between the two intersections, SR 1 would be widened primarily on the west side of the roadway to provide for the additional two lanes and widened, standard outside shoulders and median. New pavement would be constructed west of the existing edge of pavement. SR 1 would be widened from approximately 64 feet to a maximum of approximately 132 feet. Figure 1.4 and Figure 1.5 show the existing and proposed roadway width/profile. Approximately half of the length of this widening would be constructed on new embankment contained by retaining walls to prevent encroachment into environmentally sensitive areas, and the other half would be excavated into an existing, man-made embankment (immediately south of the Reina Del Mar Avenue intersection).

The existing roadway segment has a minimum six-foot wide median with a three-foot-high concrete barrier dividing the northbound and southbound lanes. With the proposed widening, a new median barrier would be constructed to the west of the existing median barrier. The proposed median width for the Narrow Median Build Alternative would vary from 12 feet to 29 feet, while the proposed median width for the Landscaped Median Build Alternative would vary from 12 feet to 40 feet.

Retaining walls would be constructed to contain portions of the roadway widening within the existing right-of-way (R/W) or to prevent encroachment into environmentally sensitive areas (refer to Figures 1.4 and 1.5). The retaining walls will include the following:

- A retaining wall a maximum of 10 feet tall and approximately 540 feet long, located at the western edge of the highway near the commercial area and just south of the intersection of Fassler Avenue/Rockaway Beach Avenue.

- A retaining wall three to seven feet in height and approximately 180 feet long, located at the western edge of the highway near the commercial area along Old County Road, on the north side of the Fassler Avenue/Rockaway Beach Avenue intersection. This new wall will replace an existing three-foot wall and will be constructed slightly northeast of the existing wall.

- A retaining wall approximately 310 feet long and up to nine feet high, located at the eastern edge of the highway near the southern end of the project alignment, south of Fassler Avenue and Coast Lane.

- A retaining wall approximately 430 feet long and up to five feet high, located along the eastern edge of the highway north of Fassler Avenue and adjacent to the Harvey Way frontage road. There would be a three-foot high vehicle barrier on top of this wall.

- A retaining wall approximately 400 feet long and up to 12 feet high, located along the eastern edge of the highway, north of Harvey Way.

- A retaining wall approximately 1,000 feet long and up to nine feet high, located along the western edge of the highway north of Rockaway Beach Avenue and the old "quarry site" driveway.

- A retaining wall approximately 170 feet long and up to an average of 22 feet high, located along the western edge of the highway north of Reina Del Mar Avenue.

- A retaining wall approximately 60 feet long and up to 10 feet high, located just south of the Shelldance Nursery driveway.

A permanent exclusion barrier would also be constructed on the west side of SR 1 between Calera Creek and San Marlo Way (with the exception of the driveway access to the former quarry property and the western leg of the Reina Del Mar Avenue intersection) so that special-status species are less likely to enter the roadway.

The existing Class I bicycle/pedestrian path adjacent to SR 1, north of Reina Del Mar Avenue, would be constructed along the western edge of the widened highway. The path would be upgraded by widening it from eight (8) feet to 10 feet, by increasing the separation between edge of path and edge of traveled way from nine (9) feet to 16 feet, and by installing a fence to provide a physical separation between the bicycle path and the highway. A concrete drainage ditch between the bicycle path and the hillside would also be constructed. The existing two-way bicycle/pedestrian path west of the existing highway and the former quarry property, as well as further south of Rockaway Beach Avenue, would not be altered or affected by the proposed roadway widening under either Build Alternative.

The existing sidewalk and paved path that currently extends from Reina Del Mar Avenue south to the Harvey Way frontage road on the east side of the highway would be replaced with a new sidewalk. A new sidewalk would be constructed along the east side of Harvey Way to complete the pedestrian

connection between Fassler Avenue and Reina Del Mar Avenue. The sidewalk would be upgraded by placing it further from the new edge of traveled way of the SR 1 northbound lanes.

A small area of wetland created by a culvert outfall is located adjacent to the highway approximately 750 feet north of the Fassler Avenue/SR 1 intersection on the western side of SR 1. To avoid filling and affecting this wetland area a small bridge structure would be constructed to carry the widened roadway over the wetland. The bridge structure would be approximately 40 feet long by 50 feet wide.

Storm water treatment facilities such as biofiltration swales and biofiltration strips would be added along segments of the highway to provide improved treatment of storm water runoff from the paved highway surfaces.

#### *1.4.1.2 Intersection Improvements*

As described above there are two intersections located within the project area, one near the south end of the site (SR 1/Fassler Avenue/Rockaway Beach Avenue), and one near the north end of the site (SR 1/Reina Del Mar Avenue). The improvements proposed at each of these intersections are described below.

The SR 1/Fassler Avenue/Rockaway Beach Avenue intersection currently provides two left-turn lanes in the southbound direction and one left-turn lane in the northbound direction. The Build Alternatives propose the following improvements for the SR 1 and Fassler Avenue/Rockaway Beach Avenue intersection:

- The northbound SR 1 approach (south leg of the intersection) would be widened from four lanes to five lanes which would include one left-turn lane, three through lanes, and one right-turn lane. No additional right-of-way would be required at this location.

- The westbound Fassler Avenue approach (east leg of the intersection) would remain the same with three lanes, including one left-turn/through lane and two right-turn lanes. No additional right-of-way would be required at this location.

- The southbound SR 1 approach (north leg of the intersection) would remain the same with five lanes, including two left-turn lanes, two through lanes, and one right-turn lane. These improvements would require additional right-of-way.

- The eastbound Rockaway Beach Avenue approach (west leg of the intersection) would remain the same with two lanes, including one left-turn/through lane and one right-turn lane. No additional right-of-way would be required at this location.

- The existing SR 1 and Fassler Avenue crosswalks on the south and east sides of the intersection would be upgraded to meet current ADA standards. A sidewalk bulb-out[11] would be constructed on the east side of SR 1 between Fassler Avenue and the Harvey Way

[11] A bulb-out (or curb extension) is a traffic calming measure, primarily used to extend the sidewalk out into the street. The primary use of curb extensions are to improve visibility of pedestrians and reduce their exposure to motor vehicles.

frontage road to provide better access for the bus stop and improved sight distance south on SR 1 for the Fassler Avenue signalized stop bar.

- On the north side of Rockaway Beach Avenue, the entrance to Old County Road at the intersection would be converted to one-way only in the northbound direction (refer to Figures 1.4 and 1.5).

- Between Fassler Avenue/Rockaway Beach Avenue and Reina Del Mar Avenue, San Marlo Way would be converted to a one-way exit from southbound SR 1 (refer to Figures 1.4 and 1.5).

The SR 1/Reina Del Mar Avenue intersection currently provides left-turn lanes in the northbound and southbound directions. The Build Alternatives propose the following improvements at the SR 1/Reina Del Mar Avenue intersection, which would not require any additional right-of-way:

- The northbound SR 1 approach (south leg of the intersection) would be maintained at four lanes, including one left-turn lane, two through lanes, and one through/right-turn lane.

- The westbound Reina Del Mar Avenue approach (east leg of the intersection) would remain the same with two lanes, including one left-turn/through/right-turn lane, and one right-turn lane.

- The southbound SR 1 approach (north leg of the intersection) would be widened from three lanes to five lanes which would include one left-turn lane, three through lanes, and one right-turn lane.

- The eastbound Reina Del Mar Avenue approach (west leg of the intersection) would remain the same with one lane approaching the intersection.

- A sidewalk bulb-out would be added at the southeast corner of the intersection to minimize the SR 1 crosswalk crossing distance.

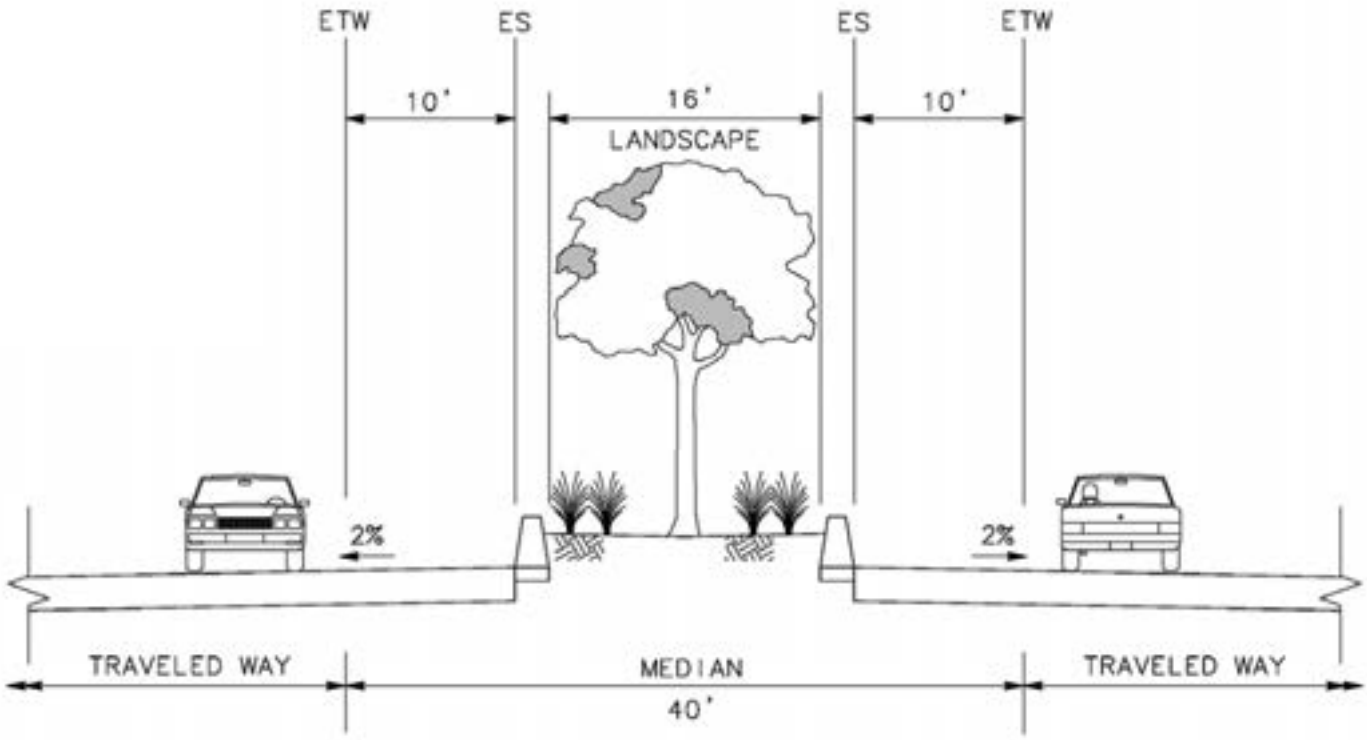
The existing intersection traffic signal equipment at both the SR 1/Fassler Avenue/Rockaway Beach Avenue and the SR1/Reina Del Mar Avenue intersections would be replaced with new signals to match the new intersection geometry.

### 1.4.2 Unique Features of the Build Alternatives

The main difference between the two Build Alternatives is the design of the proposed median in the SR 1 roadway between San Marlo Way and Reina Del Mar Avenue. The existing roadway segment has a six-foot wide median with a three-foot-high concrete barrier dividing the northbound and southbound lanes. Under the Narrow Median Build Alternative, the median within this segment would be widened from six (6) feet to 22 feet and would include a single three-foot high concrete barrier to separate northbound and southbound lanes as well as ten-foot wide inside shoulders on both the northbound and southbound sides of the highway. Under the Landscaped Median Build Alternative, the median within this segment would be widened an additional eighteen (18) feet between San Marlo Way and Reina Del Mar Avenue to provide space for a landscaped median. The landscaped median cross section would consist of sixteen (16) feet of landscaping between two three-

foot high concrete barriers (two-feet wide each) and a ten-foot wide inside shoulder on both the northbound and southbound sides of the highway. Figure 1.6 shows a typical cross-section of the Landscaped Median Build Alternative.

Because of the sensitive habitat areas that are present along the western side of SR 1 north of San Marlo Way (refer to Sections 2.16-2.20 of this document) and the existing land uses that are present along the eastern side of SR 1 south of Reina Del Mar Avenue, the SR 1 alignment would have to be shifted slightly eastward between San Marlo Way and Reina Del Mar Avenue to accommodate the wider median. The additional widening would occur primarily on the east side of existing SR 1 for the portion north of San Marlo Way and primarily on the west side of SR 1 for the portion south of Reina Del Mar Avenue (refer to Figure 1.5).




**LEGEND**

ES Edge of Shoulder

ETW Edge of Traveled Way

TYPICAL CROSS-SECTION OF LANDSCAPE MEDIAN FIGURE 1.6

### 1.4.3 Right-of-Way Requirements

Most of the proposed improvements would be constructed within the existing Caltrans and City of Pacifica rights-of-way. There are several locations, however, under both alternatives, where the improvements would require additional right-of-way. The right-of-way requirements would be less under the Narrow Median Build Alternative than under the Landscaped Median Build Alternative.

Based on the preliminary Build Alternative designs, the locations where additional right-of-way would be required are listed in Table 1.5 and described below.

**TABLE 1.5***
**PRELIMINARY RIGHT-OF-WAY REQUIREMENTS**

| Assessor's Parcel Number (APN) | Address | Owner | Existing Use | Right-of-Way Needed (in s.f.) |
|---|---|---|---|---|
| ***Requirements the same for both Build Alternatives*** | | | | |
| 022-022-030 | Adjacent to 4408 Cabrillo Highway | Private | Vacant land | 1,800 (full acquisition) |
| 022-022-060 | Adjacent to 4408 Cabrillo Highway | Private | Vacant land | 2,000 (full acquisition) |
| 022-022-070 | Adjacent to 4408 Cabrillo Highway | Private | Vacant land | 1,900 (full acquisition) |
| 022-022-190 | 4408 Cabrillo Highway | Private | Vacant restaurant | 11,000 (full acquisition) |
| 022-022-100 | N/A | Private | Vacant land | 3,500 (full acquisition) |
| 022-022-110 | N/A | Private | Vacant land | 3,400 (full acquisition) |
| 022-022-120 | 425 Old County | Private | Single-family | 6,300 |

**TABLE 1.5***
**PRELIMINARY RIGHT-OF-WAY REQUIREMENTS**

| Assessor's Parcel Number (APN) | Address | Owner | Existing Use | Right-of-Way Needed (in s.f.) |
|---|---|---|---|---|
| | Road and 4430 Coast Highway | | residence and restaurant | (full acquisition) |
| 022-022-130 | N/A | Private | Vacant land | 3,000 (full acquisition) |
| 022-022-140 | N/A | Private | Vacant land | 5,700 (full acquisition) |
| 022-022-150 | N/A | Private | Vacant land | 4,400 (full acquisition) |
| 022-022-200 | N/A | State of California | Vacant land | 9,500 (full acquisition) |
| 022-031-180 | 451 Harvey Way | Private | Single-family residence | 480 (sidewalk easement) |
| 022-031-190 | 439 Harvey Way | Private | Single-family residence | 480 (sidewalk easement) |
| 022-031-340 | 427 Harvey Way | Private | Commercial (sculpture studio) | 720 (sidewalk easement) |
| 022-031-330 | 419 Harvey Way | Private | Single-family residence and office | 400 (sidewalk easement) |
| 022-031-240 | 411 Harvey Way | Private | Commercial (office for concrete contractor) | 80 (partial acquisition) 400 (sidewalk easement) |
| 022-031-250 | 407 Harvey Way | Private | Commercial (palm reader) | 240 (partial acquisition) 430 |

**TABLE 1.5***
**PRELIMINARY RIGHT-OF-WAY REQUIREMENTS**

| Assessor's Parcel Number (APN) | Address | Owner | Existing Use | Right-of-Way Needed (in s.f.) |
|---|---|---|---|---|
| | | | | (sidewalk easement) |
| 022-031-260 | N/A | Private | Vacant land | 140<br>(partial acquisition)<br>170<br>(sidewalk easement) |
| ***Requirements specific to the Narrow Median Build Alternative*** | | | | |
| 018-150-150 | Vacant (adjacent to southbound SR 1, north of San Marlo Way) | Private | Vacant land | 19,800<br>(partial acquisition) |
| 018-140-090 | 4400 Coast Highway | Private | Lutheran Church | 1,600<br>(partial acquisition) |
| 018-140-230 | Vacant (north of 4400 Coast Highway | Private | Vacant land north of Lutheran Church | 1,050<br>(partial acquisition) |
| Parcel 28797 | N/A | State of California | Vacant land | 9,600<br>(partial acquisition) |
| ***Requirements specific to the Landscaped Median Build Alternative*** | | | | |
| 018-150-150 | Vacant (adjacent to southbound SR 1, north of San Marlo Way) | Private | Vacant land | 22,000<br>(partial acquisition) |
| 018-140-090 | 4400 Coast Highway | Private | Lutheran Church | 2,200<br>(partial acquisition)<br>500<br>(utility easement) |

**TABLE 1.5***
**PRELIMINARY RIGHT-OF-WAY REQUIREMENTS**

| Assessor's Parcel Number (APN) | Address | Owner | Existing Use | Right-of-Way Needed (in s.f.) |
|---|---|---|---|---|
| 018-140-230 | Vacant (north of 4400 Coast Highway | Private | Vacant land north of Lutheran Church | 1,700 (partial acquisition) 1,200 (utility easement) |
| 018-140-060 | 4320 Coast Highway | Private | Vacant office building | 1,000 (partial acquisition) 500 (utility easement) |
| 018-140-070 | 4300 Coast Highway | Private | Veterinarian office | 900 (partial acquisition) 500 (utility easement) |
| 018-140-050 | 4275 Coast Highway | Private | Lumber yard | 3,000 (partial acquisition) |
| 018-140-470 | Vacant (north of Lumber Yard) | Private | Vacant land | 800 (partial acquisition) |
| 018-140-460 | Vacant (north of Lumber Yard) | Private | Vacant land | 1,900 (partial acquisition) |
| Parcel 28797 | N/A | State of California | Vacant land | 17,200 (partial acquisition) 7,200 (utility easement) |

*Information in this table is preliminary and is subject to minor revision during final design.

#### *1.4.3.1 Narrow Median Build Alternative Right-of-Way Requirements*

Along the west side of SR 1, right of way acquisition would affect 12 existing parcels, extending for about 1,400 feet immediately north of the Fassler Avenue/Rockaway Beach Avenue intersection. Eleven of these parcels would be full acquisitions, while parcel 018-150-150 (vacant former quarry site) would be a partial acquisition. One of the parcels is owned by the State of California. The remaining parcels are privately owned and vacant land, with the exception of parcel 022-022-120 which has two owner-occupied structures on it, and parcel 022-022-190 which has a vacant restaurant on it. The project would require the demolition of all three of these buildings.

Along the east side of SR 1, right of way acquisition would affect 10 existing parcels. Three of these parcels are north of Harvey Way, one of which accommodates a Lutheran Church, while the other two are vacant parcels. One of these vacant parcels is owned by the State of California. The remaining seven affected parcels are along the east side of Harvey Way and require right-of-way and/or permanent sidewalk easement acquisitions.

The total additional right-of-way required for the Narrow Median Build Alternative would be approximately 88,100 square feet including both right-of-way and easement acquisitions. A qualified agency or consultant will be contracted to conduct right of way activities.

#### *1.4.3.2 Landscaped Median Build Alternative Right-of-Way Requirements*

The first 18 parcels listed in the table above would have the same amount of acquisition as the Narrow Median Build Alternative. This includes the eleven full parcel acquisitions on the west side of SR1 and the seven parcels along the east side of SR 1 (along Harvey Way) that require right-of-way and/or permanent sidewalk easements acquisitions.

Along the east side of SR 1, the required acquisitions from the Lutheran Church and adjacent vacant parcels to the north would be larger due to the additional widening needed in this area and easement space needed for utility relocations. Likewise along the west side of SR 1, parcel 018-150-150 (vacant former quarry site) would require a larger acquisition for additional widening needed in this area.

There are five additional properties east of SR 1 and south of Reina Del Mar Avenue, which would require utility easement and/or right-of-way acquisitions under the Landscaped Median Build Alternative.

The total additional right-of-way required for the Landscaped Median Build Alternative would be approximately 117,000 square feet including both right-of-way and easement acquisitions. Acquisition would be by the County of San Mateo, a qualified agency.

### 1.4.4 Project Cost and Schedule

The estimated cost for construction, right-of-way acquisition, and environmental mitigation for the Narrow Median Build Alternative is $30.4 million. The Project Report also estimates $10.5 million for support costs and $4.5 million for escalation, for a total cost of $45.4 million for the Narrow Median Build Alternative.

The estimated cost for construction, right-of-way acquisition, and environmental mitigation for the Landscaped Median Build Alternative is $34.9 million. The Project Report also estimates support costs of $11.5 million and $5.2 million for escalation, for a total cost of $51.6 million for the Landscaped Median Build Alternative.

If approved and funded fully, construction of the project is estimated to commence in spring of 2014. The duration of construction would be approximately two years. The proposed improvements would be constructed in phases, as listed below.

- Stage 1: Remove the existing concrete barrier along SR 1 and pave to provide for temporary vehicle access lanes. Shift both northbound and southbound SR 1 traffic to the east and construct west side improvements.
- Stage 2: Shift both northbound and southbound SR 1 traffic to the west side improvements constructed in Stage 1. Construct east side improvements.
- Stage 3: Maintain southbound SR 1 traffic shifted to the west, but shift northbound traffic to the east side improvements constructed in Stage 2. Construct remaining improvements in the median area of SR 1.

Construction work hours will be determined during the final design stage of the project in consultation with Caltrans and the City. Construction hours are typically between 7:00AM and 4:00PM, unless otherwise restricted by final design specifications. Some construction activities will occur in the nighttime hours during select time periods which cannot be done during the daytime due to the increased daytime traffic, such as placement of K-rails for each of the construction stages mentioned above.

The proposed construction staging area is located along the west side of SR 1, approximately 600 feet south of Reina Del Mar Avenue, within the state right-of-way. Construction equipment used on this project would include scrapers, bulldozers, backhoe loaders, cement trucks, cranes, and asphalt/paving/concrete equipment.

### 1.4.5 Transportation System Management (TSM) and Transportation Demand Management (TDM) Alternatives

Various transportation system management (TSM) and transportation demand management (TDM) strategies and alternatives were considered (please refer to Section 1.4.8 Alternatives Considered but Eliminated). These include such strategies as metering, increased or modified transit service, providing additional auxiliary or turning lanes, providing reversible lanes, and traffic signal coordination. Other TDM strategies considered include encouraging carpooling and ridesharing as well as providing additional bicycle and pedestrian improvements. While such strategies could reduce the cost and environmental impacts of the project, TSM and TDM strategies such as these

would not substantially reduce congestion and improve the level of service on SR 1 in the long term through the project site.

Although TSM and TDM measures alone could not satisfy the purpose and need of the project, the following measures have been incorporated into the two Build Alternatives: 1) additional turning lane capacity; and 2) improvement of pedestrian and bicycle facilities along the project alignment.

### 1.4.6 No Build Alternative

The No Build Alternative would consist of not constructing the project, which would avoid all of the environmental impacts of the project, as described in this document. Under the No Build Alternative, it is assumed that all other planned and programmed improvements would be constructed and in place. The No Build Alternative would not improve traffic operations, decrease traffic congestion and delay, or improve peak-period travel times along this segment of SR 1. Under the No Build Alternative, projected increases in traffic would cause congestion to worsen and the existing problems that are described in Section *1.2.2 Need for the Proposed Project,* would be exacerbated.

### 1.4.7 Comparison of Alternatives

This section highlights the differences between the Narrow Median Build Alternative, the Landscaped Median Build Alternative, and the No Build Alternative. The key differences are shown in Table 1.6.

**TABLE 1.6**
**COMPARISON OF ALTERNATIVES**

| | | No Build Alternative | Narrow Median Build Alternative | Landscaped Median Build Alternative | Comments |
|---|---|---|---|---|---|
| **Summary of Improvements** | | none | Widen the existing SR 1 roadway segment from four lanes to six lanes (three lanes in each travel direction) and provide improvements at the Fassler Avenue/Rockaway Beach Avenue and the Reina Del Mar Avenue intersections.<br><br>The existing six-foot wide median would be widened and would vary from 12 feet to 29 feet, and would include a three-foot high concrete barrier. | Same as Narrow Median Alternative, but this alternative proposes a median, which would vary from 12 to 40 feet wide throughout the project reach, with two three-foot high barriers and ten-foot inside shoulders on both the northbound and southbound sides of the highway. Between San Marlo Way and Reina Del Mar Avenue, the median would also include a 16-foot wide landscaped area between the barriers (refer to Figure 1.6). | |
| **Environmental Impacts** | Relocation | none | Relocation of 1 residential property | | Both alternatives have the same impacts. No additional relocations are necessary due to the wider footprint of the Landscaped Median Build Alternative. |
| | Visual and Aesthetics | none | Removes buildings, trees, screening shrubs. Opens view to coast for southbound traffic. Widened pavement section will have a visually unappealing increase in hardscape. | Removes buildings, trees, screening shrubs. Opens view to coast for southbound traffic.<br>Landscape in median breaks up wide pavement and enhances visual aesthetics in corridor. | Alt C4[1] includes trees and shrubs within the median and this will also provide glare screening for headlights of oncoming traffic. The wider median for Alt C4, also provides an opportunity to vertically separate the two sides of SR 1 with the southbound being lower and northbound higher. This would provide opportunities to open up coastal views for northbound traffic. |
| | Cultural Resources | none | There are two recorded archaeological sites within or adjacent to the APE. Under each viable alternative, two separate ESAs will be included that would be maintained for each site during construction. | | Alt C3[2] and Alt C4 have the same impacts. |
| | Wetlands | none | A cantilevered bridge will be constructed over an existing culvert outfall with wetland habitat. | | Alt C3 and Alt C4 have the same impacts (no direct impacts to any wetlands). |
| | Endangered Species | none | 6.81 acres permanent and 3.75 acres temporary impacts of potentially occupied habitat. | 7.08 acres permanent and 3.75 acres temporary impacts of potentially occupied habitat. | Endangered species affected are the California red-legged frog and San Francisco garter snake. |
| | Environmentally Superior Alterative | Would avoid the physical impacts associated with right-of-way acquisition, biological resources, cultural resources, and aesthetics. Would not result in the incremental benefits of the project associated with traffic, air quality, and greenhouse gases. Would not fulfill the project's purpose. | Would improve traffic, air quality, and greenhouse gases, and would fulfill the purpose of the proposed project. Would result in impacts to right-of-way, biological resources, cultural resources, and aesthetics. | | Since the Landscaped Median Alternative would provide an aesthetic benefit to the project area by providing glare screening and opening up coastal views for northbound traffic, this alternative would be the environmentally superior alternative. |
| | No. of parcels | 0 | 22 | 27 | On the west side of SR 1 Alt C4 impacts the same parcels as Alt C3 (R/W take for Quarry Site is larger). |

| | | | | | |
|---|---|---|---|---|---|
| **Right-of Way Impacts** | | | | | On the east side of SR 1, Alt C4 impacts five additional parcels (vacant office building south of pet hospital, Pacifica Pet Hospital, vacant lumber yard and two vacant lots north of lumber yard). Parking spaces will be reduced for two parcels (four spaces for vacant office building and two spaces for Pet Hospital). Alt C4 also includes larger takes for the State owned and Church parcels. |
| | Area (including easements) | 0 | 88,000 SF | 136,000 SF | |
| | Cost (including utilities) | $0 | $5,100,000 | $6,800,000 | |
| **Geometric Approval Drawing (GAD) and Design Exceptions** | Specific Design Features | Majority of roadway in project limits has 6' median with 2' inside shoulders and concrete barrier, and 4' to 8' outside shoulders. | Majority of roadway in project limits would have 22’ median with 10’ inside shoulders and concrete barrier, and 10' outside shoulders. | Between San Marlo Way and Reina Del Mar Ave, Hwy 1 would have a 40’ median with 10’ inside shoulders and a raised 16’ landscaped median between two concrete barriers. Separate roadways allows more flexibility in vertical design. | Both designs have been conceptually approved by Caltrans. Flexibility in vertical elevation between northbound and southbound roadways for Alt C4 will allow highway to better conform to hillside and reduce retaining wall heights. For Alt C4 only, there is also some flexibility to vary the width between the two separate median barriers during final design. |
| | Design Exceptions | Non-standard shoulders, median, driveway access, sight distance, and many other exceptions. | 8 Mandatory and 9 Advisory Design Exceptions requested. | 8 Mandatory and 10 Advisory Design Exceptions requested. | Alt C4 requires one additional Advisory design exception, approved by the District Director, for building a landscaped median. |
| **Traffic** | Forecasted 2035 Peak Hour Delay at intersections | Fassler Ave AM Peak Hour Delay - 389 sec<br>Reina Del Mar PM Peak Hour Delay - 251 sec | Fassler Ave AM Peak Hour Delay - 90 sec<br>Reina Del Mar PM Peak Hour Delay - 53 sec | | Intersection performance is the same for both Alt C3 and Alt C4. Forecasted Peak Hour Delays are from 7:30 to 8:30 for AM and 5:00 to 6:00 for PM |
| **Safety Improvements** | | None | Standard shoulders would allow more rooom for emergency vehicle access along highway if traffic is stopped. Improved sight distance would be provided at intersections. | | |
| **Project Capital Outlay Cost** | | $0 | $30,400,000 | $34,900,000 | Cost for Construction, right-of-way, and Mitigation. |
| **Duration of Construction** | | none | Approximately two years | Approximately two years | |
| **Maintenance Agreement Requirements** | | | | A maintenance agreement would be required for the median landscaping. | A landscaped median on Highway 1 within the project limits will only be approved by the State under the condition that the State will not be responsible for maintenance of the landscaping within the median and that the project sponsor will provide a responsible agency, approved by the State, to enter into a maintenance agreement for long-term maintenance of the landscaping within the median. |
| **Locally Preferred Alternative** | | TBD<br>(See Comment) | No<br>(See Comment) | Yes<br>(See Comment) | At June 25, 2012 meeting, Pacifica City Council passed the following: "Motion to give direction to staff to participate in the Project Development Team (PDT) to encourage the selection of the landscape median alternative but reserve the final decision on the Calera Parkway Project until after the FEIR is issued". |

Notes:
1 – Alt C4 is the Landscaped Median Build Alternative
2 – Alt C3 is the Narrow Median Build Alternative

After the public circulation period, all comments have been considered, and the Department, SMCTA, and the City of Pacifica have identified a preferred alternative. The Department has certified that the project complies with CEQA and has prepared findings for all significant impacts identified and certified that the findings were considered prior to project approval. A Statement of Overriding Considerations has not been prepared for this project because all impacts have been mitigated below a level of significance. The Department has approved the project and filed a Notice of Determination with the State Clearinghouse that has identified whether:

- Findings were made;
- The project will have significant impacts;
- Mitigation measures were included as conditions of approval.

Similarly, the Department, as assigned by FHWA, has determined that NEPA action does not significantly affect the environment, and the Department has issued a Finding of No Significant Impact (FONSI) in accordance with NEPA.

## Identification of a Preferred Alternative

On July 18, 2012, the Project Development Team (PDT) formally identified the Landscape Median Build Alternative as the preferred alternative.

This decision was made after considering all information in the Draft EIR/EA and technical studies as well as comments from outside agencies, the public, and the internal PDT. Table 1.6 summarizes the main considerations and issues associated with each alternative which include environmental impacts, right-of-way needs, cost, traffic pattern changes, long-term maintenance requirements, design exceptions, safety improvements, construction period, and agreement requirements. Both Build Alternatives would meet the project purpose and need by reducing delay at the project intersections, thus decreasing traffic congestion and improving peak-period travel times. The No Build Alternative would not meet the project purpose and need but serves as a baseline against which to compare the Build Alternatives.

Both Build Alternatives would have similar impacts and incorporate similar avoidance and minimization measures for most resource areas. As noted in the Visual/Aesthetics discussion (Section 2.7.2.2), while this segment of SR 1 is not designated as a scenic highway, it is categorized as being eligible for this designation. Both Build Alternatives would require removal of some mature trees; but result in enhancing the views of coastal areas on the western side of the roadway. Neither Build Alternative would visually or aesthetically degrade key views. However, the Landscape Median Build Alternative would also provide enhancements to the visual character and aesthetics within the project area in the following ways:

The Landscape Median Build Alternative would provide additional vegetation within the median, separating the roadway pavement and hardscape, and the vegetation planted within the landscaped median would soften the visual experience of the corridor through this segment. The wider median design under the Landscape Median Build Alternative would also allow for more flexibility into the highway design. For instance, The Landscape Median Build Alternative would allow Caltrans to vertically separate and lower the southbound roadway from the northbound lanes to provide improved coastal views for northbound traffic. The Landscape Median Build Alternative would

allow retaining wall heights to be reduced, further minimizing visual impacts due to the addition of hardscape within the project area.

As pointed out in the Coastal Zone section of this document (Section 2.1.2.3), both Build Alternatives are consistent with the city of Pacifica Local Coastal Land Use Plan; however, the Landscape Median Build Alternative would be slightly more compatible with this plan by including landscaping with the highway improvements to improve the rising character of the SR 1 corridor and protect coastal views. The Landscape Median Build Alternative would partially screen the commercial and residential development adjacent to the roadway for the motorist. Another benefit of the Landscape Median Build Alternative is glare screening for headlights of oncoming traffic in both the southbound and northbound directions. Because the Landscape Median Build Alternative will contribute to greater overall aesthetic enhancement in the project segment, the PDT has identified it as the preferred alternative.

**Environmentally Superior Alternative**

Based on the previous discussion of the Build Alternatives, the environmentally superior alternative is the No Build alternative, which would avoid the physical impacts associated with right-of-way acquisition, biological resources, cultural resources, and aesthetics. The No Build alternative would not result in the incremental benefits of the project associated with traffic, air quality, and greenhouse gases. The No Build alternative would not fulfill the project's purpose of improving traffic operations and peak-period travel times by decreasing traffic congestion.

Apart from the No Build alternative, the two other Build Alternatives considered would improve traffic, air quality, and greenhouse gases, and would fulfill the purpose of the proposed project. Both the Narrow Median Build Alternative and the Landscaped Median Build Alternative would both result in impacts to right-of-way, biological resources, cultural resources, and aesthetics. Since the Landscaped Median Alternative would provide an aesthetic benefit to the project area by providing glare screening and opening up coastal views for northbound traffic, this alternative would be the environmentally superior alternative.

### 1.4.8 Alternatives Considered but Eliminated from Further Discussion Prior to Draft Environmental Impact Report/Environmental Assessment (EIR/EA)

During the development of the proposed project, many other potential solutions and alternative designs were considered and studied, including alternatives identified by the PDT and the public. Each was evaluated for its potential to meet the objectives of the project, its engineering feasibility in terms of its ability to meet minimum Caltrans design criteria, its cost, and its environmental impacts. Many of these alternatives were presented and discussed at the June 22, 2010 public community meeting in Pacifica. These alternatives and the reasons they have been dismissed are briefly described below and are summarized in the matrix table at the end of this section.

#### *1.4.8.1 Widen SR 1 From Four to Six Lanes for 0.8 miles*

This alternative would widen SR 1 from four lanes to six lanes for 0.8 miles, extending from 460 feet south of Fassler Avenue to 660 feet north of Reina Del Mar Avenue (see Figure 1.7). Under this alternative, the highway would have 12-foot wide lanes, 10-foot wide inside and outside shoulders,

and a 26-foot wide median between the paved inside shoulders. The widened median would extend from approximately 600 feet north of Fassler Avenue to just south of Reina Del Mar Avenue. This alternative was studied in the 1999 Project Study Report (PSR) for this project.

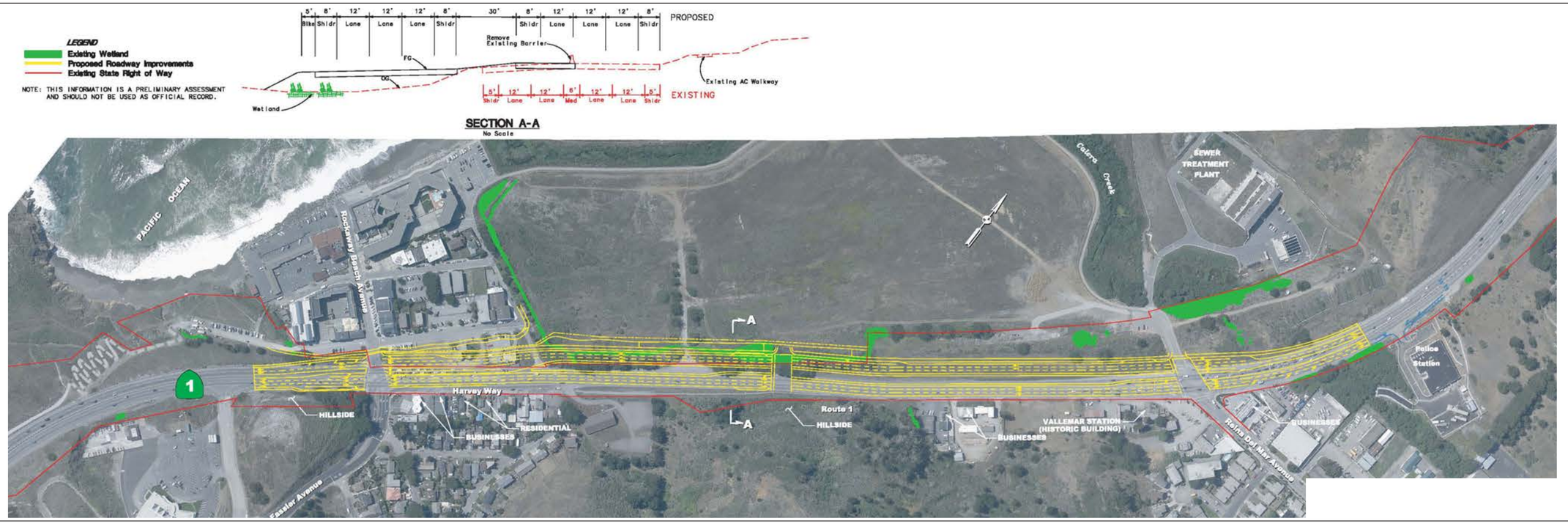
This alternative would not provide a comparable level of traffic benefit to the year 2035 compared to the proposed Build Alternatives because the third lane would not extend far enough south of the Fassler Avenue intersection or far enough north of the Reina Del Mar intersection to provide adequate merge space past the intersections.

Because this alternative would involve extensive widening on the west side of SR 1, this alternative would result in impacts to sensitive species habitat (California Red-legged Frog [CRLF] and San Francisco Garter Snake [SFGS]) west of SR 1, as well as jurisdictional wetlands west of SR 1. This alternative could also affect sensitive cultural resource sites west of SR 1. This alternative design would result in aesthetics impacts, similar to the proposed Build Alternatives, due to the removal of mature trees and screening vegetation along the east and west sides of SR 1. This alternative would result in increased hydrology and water quality impacts due to an increase in impervious areas. This alternative would also result in impacts from exposure of possibly contaminated soils during construction, temporary increases in noise levels along SR 1 from construction, and minor increases in noise levels along SR 1 due to moving traffic closer to adjacent receptors and increased travel speeds during the peak hours, similar to the proposed Build Alternatives.

This option would also result in right-of-way impacts because it would require acquisition of property/right-of-way from south of Fassler Avenue to north of Reina Del Mar Avenue. The estimated construction cost of this alternative is approximately $25 million.[12]

This alternative was primarily rejected because it would result in impacts to coastal wetlands and would result in considerably less traffic benefit than the proposed Build Alternatives.

[12] San Mateo County Transportation Authority and Mark Thomas & Company. Written communications. 2010.




ALTERNATIVE 1 - WIDEN STATE ROUTE 1 FROM FOUR TO SIX LANES FOR 0.8 MILES

FIGURE 1.7

#### *1.4.8.2 Widen SR 1 From Four to Six Lanes for 1.0 miles*

This alternative would widen SR 1 from four lanes to six lanes for 1.0 mile from 500 feet south of Fassler Avenue to 1,700 feet north of Reina Del Mar Avenue (see Figure 1.8). This alternative would be a variation on the previous alternative with the widening extending further at the north end of the project. A variation of this alternative included splitting northbound and southbound directions of the roadway through the Quarry Site to reduce existing wetland impacts. This design would not provide a comparable level of traffic benefit to the year 2035 compared to the proposed Build Alternatives because the third lane does not extend far enough south of the Fassler Avenue intersection or far enough north of the Reina Del Mar intersection to provide adequate merge space past the intersections.

Because this alternative would involve extensive widening on the west side of SR 1, this alternative would result in impacts to sensitive species habitat (CRLF and SFGS) west of SR 1, as well as jurisdictional wetlands west of SR 1. This alternative could also affect sensitive cultural resource sites west of SR 1. This alternative design would result in aesthetics impacts, similar to the proposed Build Alternatives, due to the removal of mature trees and screening vegetation along the east and west sides of SR 1, and would result in similar hydrology and water quality impacts due to an increase in impervious areas.

This alternative would also result in impacts from exposure of possibly contaminated soils during construction, temporary increases in noise levels along SR 1 from construction, and minor increases in noise levels along SR 1 due to moving traffic closer to adjacent receptors and increased travel speeds during the peak hours, similar to the proposed Build Alternatives.

The variation of this alternative which splits the northbound and southbound lanes around the wetlands in the Quarry site would reduce the amount of wetland impacts but not eliminate them and would increase the amount of impact to sensitive species habitat.

This alternative would have greater right-of-way impacts than the proposed Build Alternatives because it would require acquisition of property/right-of-way from the Rockaway Beach Area and the Quarry property. The variation with split roadways would require even greater right-of-way acquisition from the Quarry property. The estimated construction cost of this alternative is approximately $25-$40 million.[13]

This alternative was primarily rejected because it would result in impacts to special status species habitat and wetlands and because it would have considerably less traffic benefit than the proposed Build Alternatives.

#### *1.4.8.3 Widen SR 1 From Four to Six Lanes for 1.3 miles with a Pedestrian Overcrossing*

This alternative would involve widening SR 1 from four lanes to six lanes for 1.3 miles, extending from 1,500 feet south of Fassler Avenue to 2,300 feet north of Reina Del Mar Avenue similar to the proposed Build Alternatives (see Figure 1.9). However, this alternative explored adding a Pedestrian Overcrossing over SR 1 at Reina Del Mar Avenue in lieu of a pedestrian crosswalk at grade. Under this alternative, the third southbound lane would be added on the outside and dropped at Fassler

[13] San Mateo County Transportation Authority and Mark Thomas & Company. Written communications. 2010.

Avenue and the alignment would shift east to avoid wetland impacts. Restoring the Calera Creek undercrossing was also explored under this alternative.

Similar to the proposed Build Alternatives, this alternative would achieve substantial benefits to peak hour traffic operations by increasing the length of the six-lane section far enough to substantially increase vehicle capacity through the bottlenecks at Fassler Avenue and Reina Del Mar Avenue. Although the intersections would operate at LOS E or F during one or more peak hours in year 2035 conditions, the corridor would function better, serving nearly 95 percent of peak hour traffic demand, compared to approximately 75 percent if no improvements were made to the corridor. AM peak hour travel times through this corridor would improve to four minutes and 24 seconds, and PM peak hour travel times would improve to four minutes and 12 seconds.

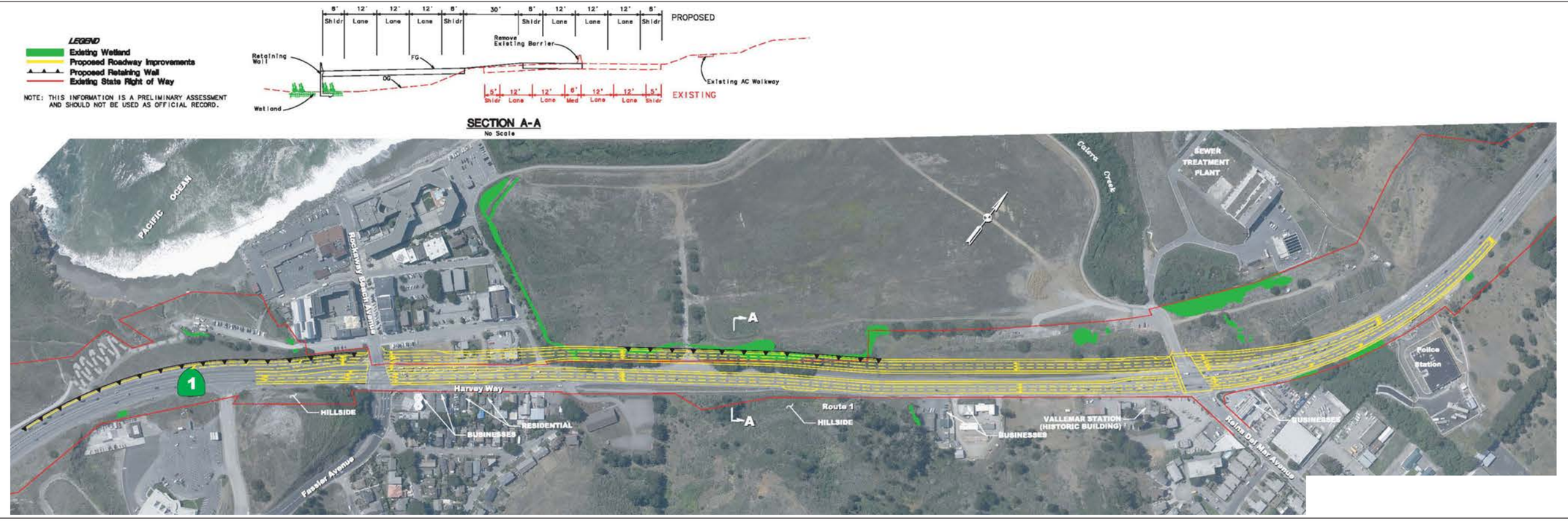
Traffic operational analysis showed that the pedestrian overcrossing would not appreciably enhance traffic operations. The overall average network-wide delay would be only slightly better in the year 2015 if the pedestrian crossing were added to the roadway widening (i.e., one percentage point in AM peak hour and five percentage points in PM peak hour). The overall average delay would be only slightly better in the year 2035 if the pedestrian crossing were added to the roadway widening (i.e., two percentage points in AM peak hour and one percentage point in PM peak hour). The analysis concluded that adding the pedestrian overcrossing to the proposed roadway widening would have only a slight additional benefit. Furthermore, the pedestrian overcrossing could actually degrade the quality of the pedestrian environment compared to the proposed Build Alternatives because it would require pedestrians to climb to a bridge to cross SR 1 instead of using an at-grade crossing.

Because this alternative would involve widening on the west side of SR 1, this alternative would result in impacts to sensitive species habitat (CRLF and SFGS) west of SR 1. The variation of this alternative which explored restoration of the Calera Creek crossing would affect jurisdictional wetlands and sensitive cultural resource sites. This alternative design would result in aesthetics impacts, similar to the proposed Build Alternatives, due to the removal of mature trees and screening vegetation along the east and west sides of SR 1. This alternative would also result in additional visual and aesthetic impacts, as compared to the proposed Build Alternatives due to the height of the pedestrian overcrossing, which would conflict with the California Coastal Commission coastal zone and Pacifica Local Coastal Plan policies regarding visual quality of the coastal area. This alternative would result in similar hydrology and water quality impacts as the Build Alternatives, due to an increase in impervious areas. This alternative would also result in impacts from exposure of possibly contaminated soils during construction, temporary increases in noise levels along SR 1 from construction, and minor increases in noise levels along SR 1 due to moving traffic closer to adjacent receptors and increased travel speeds during the peak hours, similar to the proposed Build Alternatives.

This alternative would have right-of-way impacts since it would require acquisition of property/right-of-way from south of Fassler Avenue to north of Reina Del Mar Avenue. The estimated construction cost of this alternative is approximately $32-$40 million.[14]

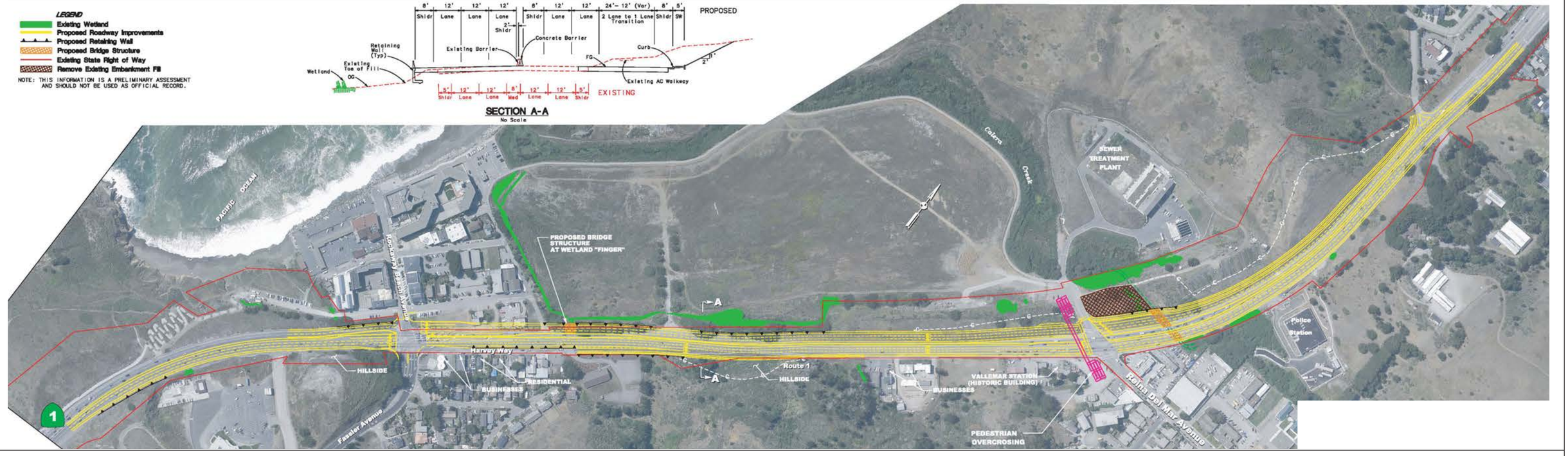
This alternative was primarily rejected because it would be more expensive to construct compared to the Build Alternatives, would substantially degrade the quality of the pedestrian environment, and it would result in essentially the same traffic benefits as the Build Alternatives.

[14] San Mateo County Transportation Authority and Mark Thomas & Company. Written communications. 2010.




ALTERNATIVE 2 - WIDEN STATE ROUTE 1 FROM FOUR TO SIX LANES FOR 1 MILE

FIGURE 1.8




ALTERNATIVE 3 - WIDEN STATE ROUTE 1 FROM FOUR TO SIX LANES FOR 1.3 MILES

FIGURE 1.9

#### *1.4.8.4 Partial Widening at Reina Del Mar Avenue*

This alternative would widen SR 1 from four lanes to five or six lanes for short segments north and south of the Reina Del Mar Avenue intersection with a four-lane segment between the two intersections (see Figure 1.10). There would be no improvements at the Fassler Avenue intersection under this alternative. Several variations of this alternative were analyzed, which considered widening for different length segments:

- four lanes to five lanes for 800 feet (northbound right-turn lane in/out of Reina Del Mar Avenue);
- four lanes to six lanes for 1,100 feet;
- four lanes to six lanes for 1,700 feet; and
- four lanes to six lanes for 2,300 feet.

This alternative would improve capacity at the Reina Del Mar Avenue intersection, but would shift the traffic bottleneck south to the Fassler Avenue intersection.

Because this alternative would involve widening on the west side of SR 1, this alternative would also result in impacts to sensitive species habitat (CRLF and SFGS) west of SR 1, as well as jurisdictional wetlands west of SR 1. This alternative could also affect sensitive cultural resource sites west of SR 1. This alternative design would result in less aesthetic impact compared to the Build Alternatives because the widening would be restricted to the vicinity of the Reina Del Mar Avenue intersection and would not remove the tree line along the west side of SR 1 north of San Marlo Way. This alternative would not open up views of the coast from the SR 1 because the existing embankment would still be adjacent to the west side of the Reina Del Mar Avenue intersection and the tree line would remain along the west side of SR 1. This alternative would result in some increased hydrology and water quality impacts due to an increase in impervious areas. This alternative would also result in impacts from exposure of possibly contaminated soils during construction, temporary increases in noise levels along SR 1 from construction, and minor increases in noise levels along SR 1 due to moving traffic closer to adjacent receptors and increased travel speeds during the peak hours, similar to the proposed Build Alternatives.

This alternative would not have right-of-way impacts because all work could be done within the existing Caltrans right-of-way. The estimated construction cost for this alternative is approximately $6-$10 million.[15]
This alternative was primarily rejected because it would not alleviate the traffic bottleneck at the SR 1/Fassler Avenue intersection, and it would not result in a substantial traffic benefit to the corridor.

#### *1.4.8.5 Grade Separation at Reina Del Mar Avenue*

This alternative would shift the SR 1 alignment west on top of the existing embankments at Reina Del Mar Avenue creating a grade separated interchange to separate SR 1 from Reina Del Mar Avenue and would require the use of retaining walls to minimize impacts. Under this alternative, SR 1 would also be widened north and south of the intersection with Fassler Avenue/Rockaway Beach

[15] San Mateo County Transportation Authority and Mark Thomas & Company. Written communications. 2010.

Avenue, to increase its capacity (see Figure 1.11). This design alternative also included creek crossing restoration. Several variations of this grade separation alternative were evaluated including:

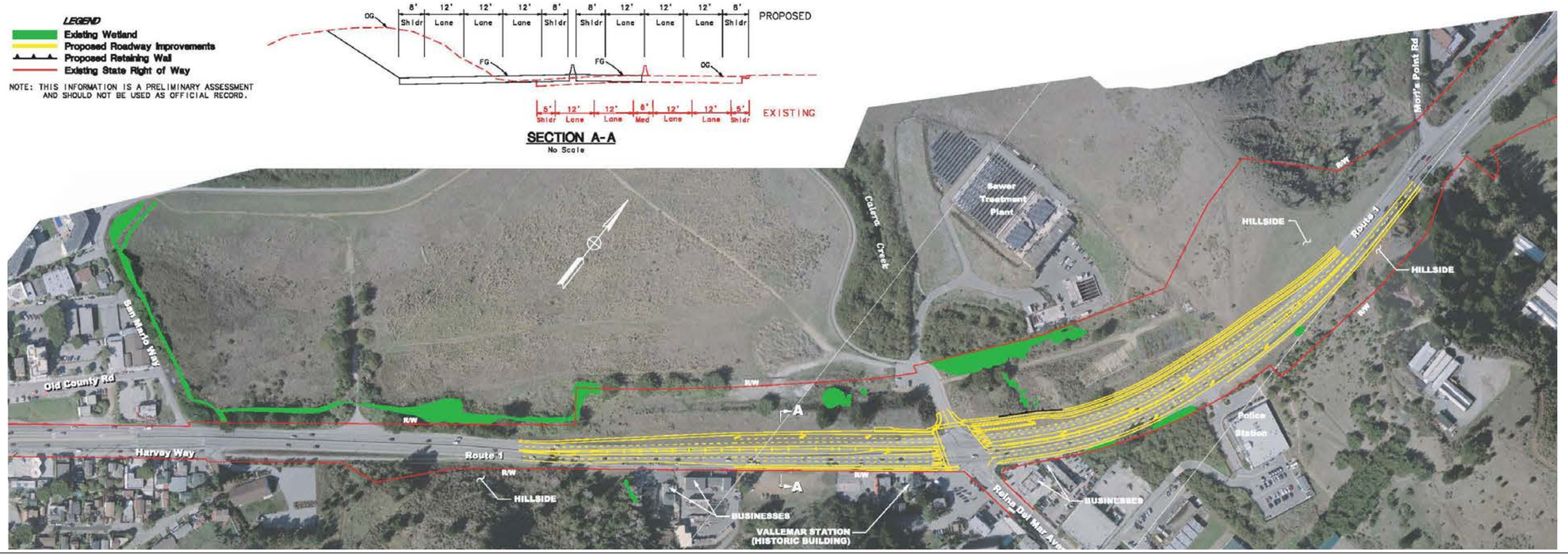
- A "compact-diamond" interchange with east side business driveways accessing SR 1 directly to/from the northbound highway on and off ramps;
- A compact-diamond interchange with a one-way frontage road on the east side of SR 1 extending north from the Harvey Way frontage road;
- A southbound compact-diamond interchange with northbound "hook" ramps and a two-way frontage road south of Reina Del Mar Avenue on the east side.
- A compact-diamond interchange with SR 1 remaining at grade and Reina Del Mar Avenue depressed below SR 1.
- Additional variations of grade separations were evaluated through the Value Analysis process.

This design alternative would provide a vertical separation between SR 1 and Reina Del Mar Avenue. Direct conflict between SR 1 and Reina Del Mar Avenue would be eliminated and access would be provided by interchange on and off ramps, creating stop-sign controlled intersections on Reina Del Mar Avenue for traffic entering and exiting SR 1. Northbound and southbound through traffic on SR 1 would no longer have to pass through a signalized intersection at Reina Del Mar Avenue. This alternative would provide the most substantial travel time benefits for traffic on SR 1. Year 2035 AM peak hour travel times through the area would average three minutes and eighteen seconds, and PM peak hour travel times would average three minutes and 30 seconds. However, these travel times would only be marginally better than the Build Alternatives, and the construction cost would be substantially higher than the Build Alternatives.

Because this alternative would involve widening on both sides of SR 1, this alternative would result in impacts to sensitive species habitat (CRLF and SFGS) west of SR 1, as well as jurisdictional wetlands west and east of SR 1. This alternative could also affect sensitive cultural resource sites west of SR 1. This alternative design would result in aesthetics impacts, similar to the proposed Build Alternative, due to the removal of mature trees and screening vegetation along the east and west sides of SR 1, and would result in greater aesthetic impacts due to the construction of the elevated interchange. This alternative would result in similar hydrology and water quality impacts due to an increase in impervious areas. This alternative would also result in impacts from exposure of possibly contaminated soils during construction, temporary increases in noise levels along SR 1 from construction, and minor increases in noise levels along SR 1 due to moving traffic higher up in the air near adjacent receptors and increased travel speeds during the peak hours, similar to the proposed Build Alternatives.

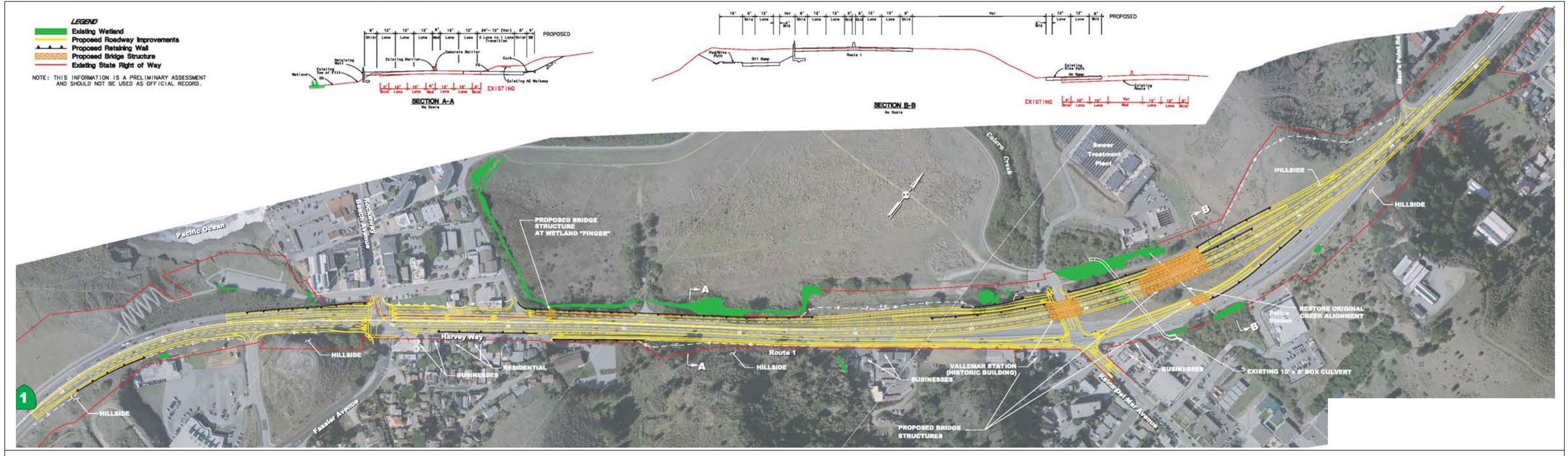
This alternative would have right-of-way impacts because it would require acquisition of property/right-of-way from the Rockaway Beach Area, the Quarry property, and, depending on the variation, the Reina Del Mar Avenue area. The estimated construction cost for this alternative is approximately $50-$65 million.[16]

[16] San Mateo County Transportation Authority and Mark Thomas & Company. Written communications. 2010.




ALTERNATIVE 4 - PARTIAL WIDENING AT REINA DEL MAR

FIGURE 1.10




ALTERNATIVE 5 - GRADE SEPARATION AT REINA DEL MAR

FIGURE 1.11

A grade separation would provide the most substantial traffic operations benefit but would require on and off ramps with controlled access to the highway, which means residential and business driveways could not have access directly to and from the on- and off-ramps. The first variation of this alternative with a simple compact-diamond design would not be feasible because Caltrans policy would not allow private or business driveway access directly to/from the on and off ramps. A separate access to all private properties adjacent to the interchange area would have to be provided from Reina Del Mar Avenue via frontage roads or other means. The other alternative variations would have much higher cost due to additional frontage road requirements and would result in much greater environmental impacts to sensitive biological resources and cultural resources than the proposed Build Alternatives. The raised roadway would also create additional visual and noise impacts. The City of Pacifica was not supportive of additional northbound "out of direction" travel to access businesses on the east side at Reina Del Mar Avenue with the northbound hook ramps variation.

The Reina Del Mar Avenue "underpass" alternative variation, where SR 1 would remain at grade and Reina Del Mar Avenue would be depressed under the highway, was raised by the public during the scoping process as another grade separation alternative. This variation would not be feasible because the distance required to angle Reina Del Mar Avenue down under the highway would cut off access to adjacent properties and the on and off ramps connecting to SR 1 north would not be able to clear the Calera Creek crossing. This variation would also result in greater environmental impacts to sensitive biological and cultural resources west of SR 1.

The grade separation alternative was primarily rejected because of the substantial additional cost to make a workable interchange and because of the increased environmental and right-of-way impacts.

#### *1.4.8.6 Roundabout*

This alternative would install roundabouts in place of signals at either one or both intersections. Roundabouts with two and three lanes were analyzed for this alternative (see Figure 1.12). Additional right-turn bypass lanes would be needed. This alternative could ease the stop-and-go traffic associated with a traffic signal; however, this alternative would be problematic for three primary reasons:

1. Roundabouts are usually designed for lower travel speeds – typically between 15 and 25 miles per hour. In this circumstance, even though the stop delay associated with the signal would be removed, the bottleneck would likely remain due to the substantially lower capacity associated with a roundabout at these locations.
2. The roundabout at the Reina del Mar intersection would be located adjacent to an elementary school to the east on Reina del Mar Avenue. Collision statistics have shown that multi-lane roundabouts are generally less safe for pedestrians than signalized intersections. (This is not to say that multi-lane roundabouts should never be installed; in fact, there are many locations where multi-lane roundabouts serve important functions. However, given that this intersection is close to an elementary school, it is not recommended.)
3. This would be the first roundabout installed in Pacifica, and would be the first one along SR 1. Generally, it is not a recommended practice to introduce a multi-lane roundabout in an area with no single-lane roundabouts.

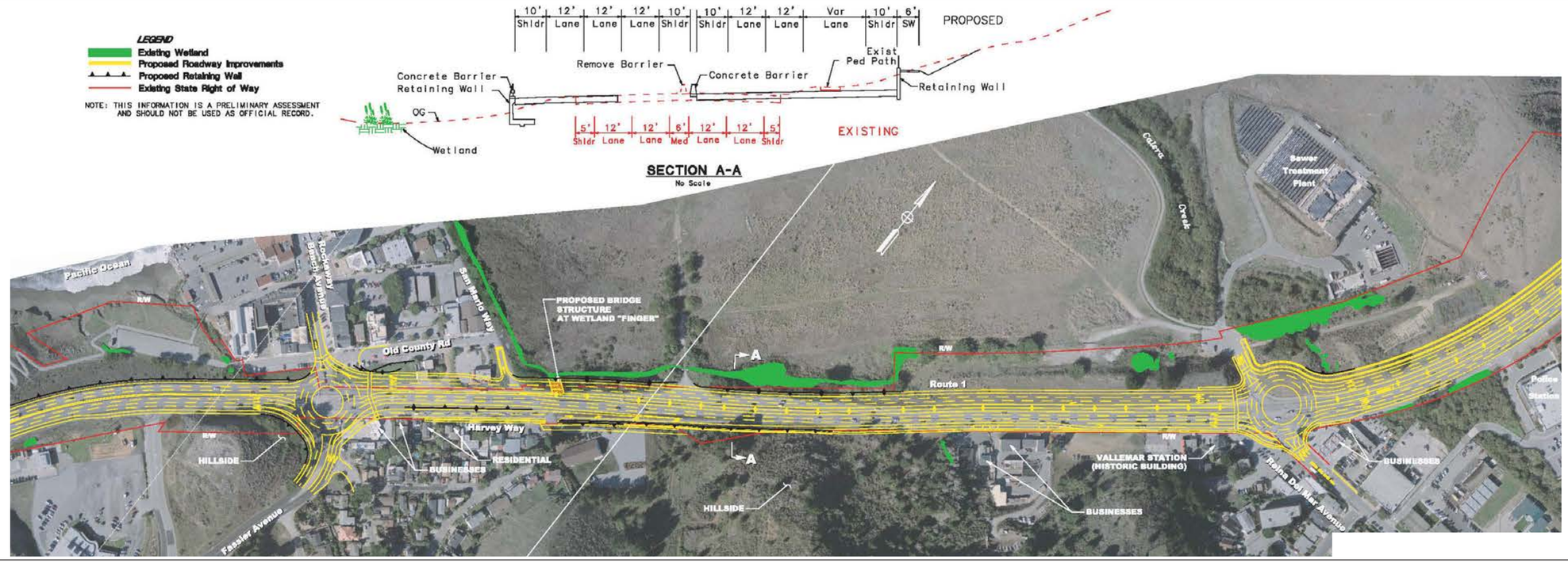
Two-lane roundabouts at either or both intersections would not provide enough capacity to improve traffic congestion through the project area. Three-lane roundabouts with supplemental right-turn bypass lanes would provide sufficient capacity to meet future traffic projections but would be substantially more complicated to navigate for vehicles, pedestrians, and bicyclists (refer to Figure 1.12). Full widening to six-lanes would still be needed on SR 1 between Fassler Avenue and Reina Del Mar Avenue to make either or both roundabouts work and result in traffic benefits. The multi-lane roundabouts required to meet traffic demand would be less safe for pedestrian crossing and bicycle traffic due to the large number of uncontrolled traffic lanes a pedestrian or bicyclist would need to cross.

Because these alternative designs would also involve widening on both sides of SR 1, this alternative would result in impacts to sensitive species habitat (CRLF and SFGS) west of SR 1, as well as jurisdictional wetlands west and east of SR 1, particularly in the vicinity of the Reina Del Mar Avenue intersection. This alternative could also affect sensitive cultural resource sites west of SR 1. This alternative design would result in aesthetics impacts, similar to the proposed Build Alternative, due to the removal of mature trees and screening vegetation along the east and west sides of SR 1, and could result in greater aesthetic impacts due to the potential footprint area necessary to accommodate the large roundabouts at Fassler Avenue and Reina Del Mar Avenue. This alternative would result in greater hydrology and water quality impacts due to an increased amount of impervious area over the Build Alternatives. This alternative would also result in impacts from exposure of possibly contaminated soils during construction, temporary increases in noise levels along SR 1 from construction, and minor increases in noise levels along SR 1 due to moving traffic closer to adjacent receptors during the peak hours, similar to the proposed Build Alternatives.

This alternative would result in right-of-way impacts since it would require acquisition of property/right-of-way from the properties adjacent to the intersections, the Rockaway Beach Area, and the Quarry property. The estimated construction cost for this alternative is approximately $40-$50 million.[17]

This alternative was primarily rejected because of the significant additional cost and right-of-way impacts that would be necessary at the two intersections to accommodate the three-lane roundabouts, as well as the highly complicated traffic flow and potential bicycle and pedestrian safety problems that would be created by such large roundabouts. The two-lane roundabouts would have less environmental impacts but would not provide a substantial traffic benefit and could even cause traffic congestion to worsen.

[17] San Mateo County Transportation Authority and Mark Thomas & Company. Written communications. 2010.




ALTERNATIVE 6 - ROUNDABOUT

FIGURE 1.12

### *1.4.8.7 Frontage Road on West Side of SR 1*

This alternative would construct a two-way frontage road through the Quarry property on the west side of SR 1, from Dondee Way to Reina Del Mar Avenue (see Figure 1.13). The frontage road would create an alternate connection to SR 1 between the Rockaway Beach area and the Vallemar neighborhoods. This alternative would have a minimal traffic benefit for highway through traffic.

This alternative would result in greater environmental impacts than the Build Alternatives to sensitive species habitat (CRLF and SFGS) west of SR 1, and to wetlands west of SR 1. This alternative could also affect sensitive cultural resource sites west of SR 1. This alternative design would result in aesthetics impacts due to the installation of a new roadway in a currently undeveloped area. This alternative would result in similar hydrology and water quality impacts due to an increase in impervious areas. This alternative could also result in impacts from exposure to possibly contaminated soils during construction and temporary increases in noise levels at San Marlo Way due to construction. This alternative would result in right-of-way impacts because it requires acquisition of property/right-of-way from the Quarry Site between San Marlo Way and Reina Del Mar Avenue.

The estimated construction cost of this alternative is approximately $8 million.[18] This alternative would provide only minimal traffic benefit and was primarily rejected because of the extensive environmental impacts to sensitive species habitat.

### *1.4.8.8 Signal Interconnect & Signal Timing Improvements without Roadway Widening*

This alternative would install signal interconnect cable between the Fassler Avenue/Rockaway Beach Avenue and the Reina Del Mar Avenue signals to coordinate timing of green phases. A variation of this alternative would also include widening to add a third lane in the northbound direction.

**Field Observations**

Existing peak-period conditions on this portion of SR 1 are considered "over capacity" or "over saturated." The over capacity condition occurs because the physical capacity of the existing lanes is inadequate to accommodate the demand (i.e., cannot handle the amount of cars). At the intersections of Fassler Avenue and Reina Del Mar Avenue along SR 1 during the morning commute hours, there is a queue (i.e., row of cars) that extends beyond Fassler Avenue even though these intersections provide 240 seconds (or 4 minutes) of green time at the Reina Del Mar Avenue intersection during the two-hour commute period. With this amount of green time for traffic traveling northbound on SR 1, other traffic movements, such as the southbound left turns and drivers traveling westbound on Reina Del Mar, experience significant delay. Priority is given to the northbound SR 1 drivers since this is the most dominant movement during the AM peak hour. However, the queue on SR 1 does not fully dissipate, and other movements are impacted by the extended green time provided to SR 1. Increasing the green time for any movement will increase the queues and delays for all traffic movements at these intersections. Because of the arrival rates of vehicles on SR 1, decreasing green time will increase the queues since the signal timing cannot keep up with the number of cars arriving. Therefore, this intersection is classified as over capacity or over saturated.

[18] San Mateo County Transportation Authority and Mark Thomas & Company. Written communications. 2010.

The congested conditions begin in the AM prior to the start of school and conclude well after the beginning of school due to the buildup of queues. During the PM peak hours, the summation of vehicles heading northbound on SR 1 during the AM peak are now heading southbound (i.e., returning home). As a result, drivers will experience congestion and delays without the impacts from school time traffic.

Signal timing coordination is used to facilitate the movement of vehicles straight through a series of intersections. For coordination to be effective, signal cycle lengths must match and accommodate respective traffic demand for each intersection. In this case, the cycle length for the signal at Reina Del Mar Avenue is appreciably longer than that at Fassler Avenue and decreasing or increasing the two cycle lengths to match would not have a noticeable reduction in queue or delays, as discussed below.

Caltrans has monitored and studied the situation over the last 10 years (i.e., from 2003 to 2013) during the commute and non-commute hours and determined that the situation cannot be resolved by signal timing as explained above. As noted by many visits, staff determined that the region is highly over capacity and requires significant physical changes to the roadway to resolve congestion. Based on records and field observations from Caltrans staff, the existing signal timing is optimized to maximize the throughput of automobile traffic, and further signal timing adjustments would not achieve substantial benefits, particularly as regional growth occurs over the long term.

Although coordination may appear to be a solution, coordination along SR 1 will not provide any relief due to the over capacity condition, as previously noted, and the distances between the intersections. The distance between the intersections is 0.57 miles (approximately 3,000 feet). With distances exceeding 1,000 feet, it is difficult to maintain a platoon (i.e., grouping of vehicles) since each driver has their own driving habits: some may drive slower, some may drive faster, some may drive with more cushion in front of them and some may drive with less.

Additionally, there is a high arrival rate and volume for southbound left turners from SR1 to Reina Del Mar and Fassler Avenues during the afternoon/evening commute hours. Therefore, the intersection is programmed to service the southbound left turners multiple times when the northbound traffic has cleared. If these intersections were coordinated, the left turners would not be serviced for more than once in a cycle; and, if the left tum pocket spills into the mainline, through-movement capacity would be reduced by up to 50 percent.

**Analysis/Modeling**

In addition to the field observations described above, the Signal Interconnect & Retiming Alternative was evaluated by Fehr & Peers, the project's traffic engineer, using several analysis tools that were developed for this purpose.

To complete the analysis, the traffic signal timings were optimized based on the existing traffic volumes and roadway configuration using commonly-accepted traffic flow theory as described in the 2000 Highway Capacity Manual and the *Synchro* software, one of the industry's primary tools for developing signal timing plans. The optimized signal timings were then exported into the *VISSIM* microsimulation software, which analyzes traffic as it flows through the entire roadway network (as opposed to an isolated intersection analysis). The analysis showed minor improvement in traffic operations, suggesting that existing traffic signal timings were generally optimized in terms of traffic capacity.

Fehr & Peers, the project traffic engineers, then analyzed the theoretically-optimal signal timings to see if the signal timings could be improved, which is what is commonly done in the field when new signal timing plans are implemented. The analysis showed some improvement in traffic operations with these new adjusted timings; however, the improvements were very minor relative to the scale of the existing congestion. The optimized signal timing for coordination, allows most of the platoon traveling through Reina Del Mar Avenue to pass through Fassler Avenue without the need to stop. However, calculations show that there will still be excessive queues on southbound SR 1 waiting to cross Reina Del Mar Avenue. Overall, the supplemental traffic analysis shows that traffic signal timings cannot be adjusted such that congestion could be substantially reduced, and that congestion would be even worse than existing conditions under the design year (2015) conditions. Specifically the report states that under existing conditions:

> *<u>Northbound Direction (AM Peak Period)</u>*
> *In order to provide acceptable operations in the northbound direction (during the AM peak), three northbound lanes would be necessary between Fassler Avenue and 500 feet north of Reina del Mar Avenue. Unlike the requirements to accommodate future traffic, the existing two lanes will suffice south of Fassler Avenue for the near term. North of Reina del Mar Avenue, the third lane only needs to extend 500 feet, not 1,600 feet.*
>
> *At Fassler Avenue, the third northbound lane will increase the capacity for right turns on red, because the third lane will only begin at that point. This will allow more cars to turn right on red from Fassler Avenue, and subsequently, the Fassler Avenue traffic signal could be retimed to give more green time to the northbound through movement. The signal could also be set for a lower cycle length to minimize delay overall, and reduce pedestrian delays.*
>
> *At Reina del Mar Avenue, the third lane will provide the needed capacity to clear vehicles queued at a red light. The three lanes can merge back into two 500 feet downstream of this intersection.*
>
> *This analysis assumes that both intersections experience similar pedestrian activity to existing conditions.*
>
> *<u>Southbound (PM Peak Period)</u>*
> *Unlike the AM situation, traffic conditions in the PM peak hour could be improved to LOS D conditions with retiming and coordination of the two signals. The main difference between the AM and PM is the Fassler Avenue intersection: as described above, in the AM, two major movements must be served, and they cannot be served concurrently, which precludes effective platooning[19] and the benefits of coordination. However, in the PM, the two major movements at Fassler Avenue (the southbound through movement and the southbound left turn) can be served at the same time.*
>
> *Approximately 30 seconds after southbound Reina Del Mar Avenue turns green, both the southbound through and protected southbound left turn at Fassler Avenue would turn green. This might require retiming the traffic signals to a shorter cycle length, such as 150 seconds.*

[19] Platooning = grouping of vehicles.

*Currently, the two traffic signals operate independently of each other and are not coordinated. In a congested or urban corridor, engineers usually coordinate traffic signals to minimize delay and vehicle stops. This is less common in suburban locations, where traffic volumes are lower and traffic signals are spaced farther apart. According to the Manual on Uniform Traffic Control Devices, it is recommended to coordinate signals that are less than half a mile apart (these signals are 0.57 miles apart).*

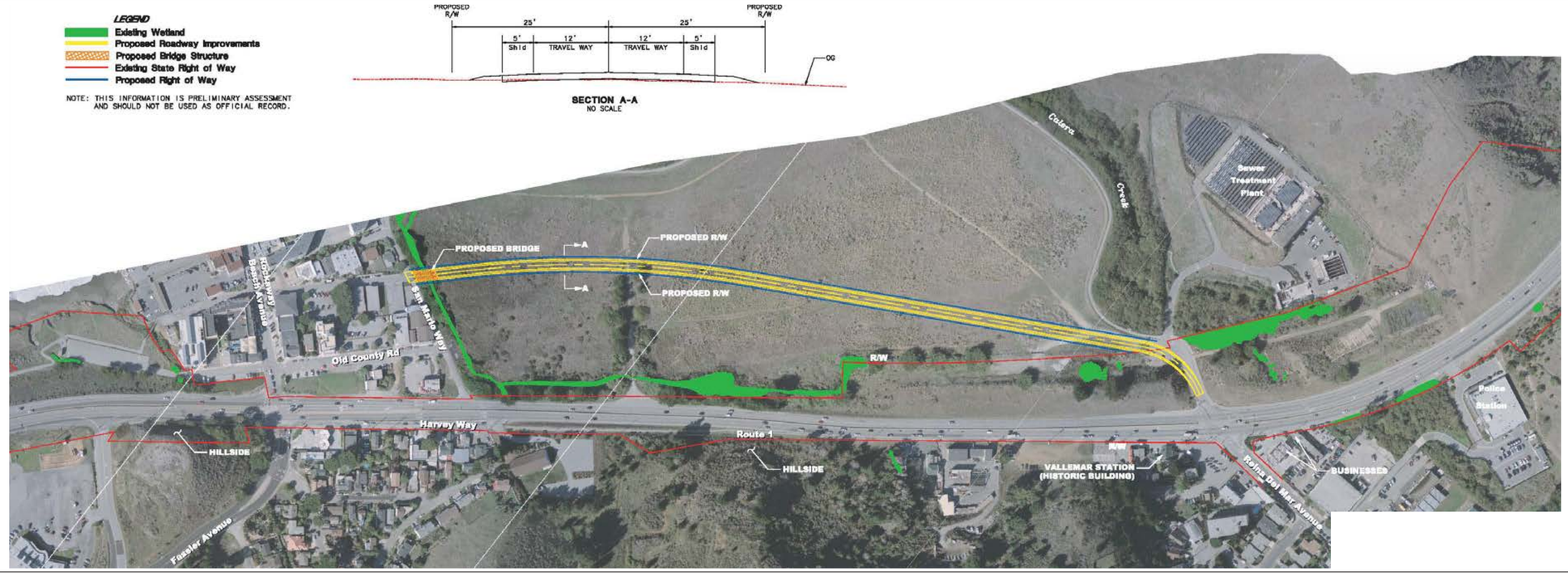
As noted in the report, the results described above are for existing conditions only – conditions in the future (i.e., year 2035) would require a longer widening north of Reina Del Mar, and PM peak hour conditions could not be improved to LOS D with signal timing adjustments alone. The environmental and property right-of-way impacts for this alternative would be minimal. The estimated construction cost for this alternative for signal interconnect only is approximately $0.3 million.[20] Signal interconnect would not, however, provide an appreciable benefit due to the distance between the two signals. This alternative was primarily rejected because the traffic operation benefit would be considerably less than the proposed Build Alternatives.

#### *1.4.8.9 Increased or Modified Transit Service*

The ability to meet the purpose of the project by providing additional transit service and access through the site, including bus, light rail, and train access, was also considered and evaluated. This alternative would consist of providing increased transit service to areas and points both north and south via additional bus routes, increased bus headways (more buses), additional park-n-ride lots, and additional feeder shuttles.

The existing transit and bus service (Routes 14, 16, 100, 112, 294, CX and DX) through the area currently run well below capacity, with an average ridership of 50 percent of available capacity in the morning peak period and 40 percent in the evening peak period.[21] In context of the entire SamTrans bus network, there is a wide range of ridership on various routes depending on their nature – bus routes providing service along El Camino Real, with connections to regional transit such as BART or Caltrain, tend to be the highest ridership, between 6,000 and 7,000 riders per day. Routes serving local destinations, such as as the 112 and 294 experience a wider range: some routes accommodate over 5,000 passengers per day while others service less than 250 per day. The 112 and 294, for example, both serve less than 750 passengers per day[22].

[20] San Mateo County Transportation Authority and Mark Thomas & Company. Written communications. 2010.
[21] San Mateo County Transportation Authority. Written communications. 2010.
[22] SamTrans, Draft Final Service Plan, March 2013




ALTERNATIVE 7 - FRONTAGE ROAD ON WEST SIDE OF SR 1

FIGURE 1.13

This alternative was evaluated by Fehr & Peers which described the amount of transit service that would be required to reduce the traffic demand on the SR 1/Calera Parkway corridor in Pacifica such that the existing roadway would accommodate the forecasted demand. Fehr & Peers evaluated the necessary transit service required to achieve improved roadway operations under two conditions:

1. in combination *with* planned roadway widening, increase transit service such that 100 percent of forecasted traffic demand would be served in 2035; and
2. *instead* of roadway widening, increase transit service such that the same level of traffic demand would be served as is expected to be served with the proposed project in 2035.

(Demand served is the percentage of total travel demand that is able to make it through a particular facility. For example, if 2,000 vehicles per hour arrive at an intersection with a capacity to serve only 1,500 vehicles per hour, the intersection is able to "serve" 75 percent of the demand.)

These two scenarios are summarized below.

1) Increased Transit Service in Combination with Roadway Widening
Fehr & Peers determined that additional transit service could potentially reduce vehicle miles traveled (VMT), but with the widening in place, the reductions would be minimal relative to the cost of the additional transit service. In addition, the existing transit services are not fully utilized and have excess available capacity (i.e., 50 percent in the AM peak hour and 60 percent in the PM peak hour). Routes offering scheduled service from regional Park & Ride lots in Pacifica to regional transit hubs are generally less than 50 percent utilized. Fehr & Peers noted that every time transit capacity is doubled, on average, ridership would increase by 50 percent. If transit service along the corridor were doubled, it would translate to a reduction of 55 vehicles in the northbound direction in the AM peak hour and 55 vehicles in the southbound direction in the PM peak hour, using average vehicle occupancy of 1.6 people per auto. This would result in a 1.5 percent reduction in peak direction vehicle travel demand during the AM and PM peak hours, respectively. To effectively accommodate all the unserved demand in year 2035 conditions with the proposed widening, transit service would have to increase by approximately 30 buses per hour in both the AM and PM peak periods (specifically, 34 buses per hour in the AM peak hour and 31 buses per hour in the PM peak hour). While the precise cost of this service would depend on detailed service planning efforts, some rough cost estimates can be derived based on the following assumptions:

- AM and PM peak period service would last for approximately three hours each
- Each route takes roughly 90 minutes to complete a round trip
- Operating cost of $150 / revenue hour (SamTrans' average operating cost per revenue hour is actually slightly higher, so this represents a conservative estimate[23])

The result of this would be a required 45 buses operating for three hours each morning and three hours each evening – a total of 270 revenue hours per day. At $150/revenue hour, this translates to a cost of over $10M annually (assuming 250 days per year where this level of service is provided) in addition to the cost of the widening project.

As noted, this is not a precise cost estimate based on a detailed service plan and route structure, but rather a simple planning-level exercise to illustrate the order of magnitude of the annual cost of

[23] Contra Costa County Transportation Authority Short Range Transit Plan, January 2012

providing such service. Nonetheless, it does suggest that the additional cost of operating such extensive increases in transit would be substantial, given the relatively small future decrease in traffic that would result. Fehr & Peers noted that based on their own assessment and conversations with SamTrans staff, even if such funding were available, this corridor, with relatively low population density, would not likely be the optimal location to focus spending. Such funding, if available, would likely be better spent on other higher-density areas of the County in which a higher portion of trips would likely be attracted to transit.

Therefore, expanding transit service with the proposed widening would not provide a significant VMT reduction. Fehr & Peers concluded that a reasonable expansion of transit service would neither generate enough reduction in auto traffic to either meet the purpose and need of the proposed project, nor to reduce the footprint of the widening project.

2) Increased Transit Service without Roadway Widening
Fehr & Peers determined that without the proposed widening project, only 77 percent of the forecasted traffic demand would be served in year 2035 and 23 percent of the demand would be unserved, resulting in extensive vehicle queuing (back ups). To accommodate the demand that could not be served by the existing roadway in the year 2035, the transit system would have to influence a ridership increase of 1,357 riders in the AM peak hour (an 875 percent increase over existing conditions) and 1,178 riders in the PM peak hour (a 773 percent increase over existing conditions). Transit service, therefore, would have to increase by 1,750 percent in the AM peak hour and 1,546 percent in the PM peak hour over existing levels. In order to accomplish this, an additional 88 buses per hour would be required in the AM peak hour and an additional 77 buses per hour would be required in the PM peak hour. This amount of service would be equivalent to nearly 15 new bus routes, each operating with relatively frequent 10-minute service times. These increases would be comparable to a completely new transit system, not just minor service increases, and would require substantial new ongoing funding for operations and maintenance costs.

Using similar assumptions as described above, to get 88 buses per hour in the AM peak hour requires operating 132 buses for three hours in the morning and to get 77 buses per hour in the PM peak hour requires operating 116 buses for three hours in the evening – a total of 744 revenue hours per day. At $150/revenue hour, this translates to a cost of nearly $30M annually (assuming 250 days per year where this level of service is provided). As noted, this is not a precise cost estimate based on a detailed service plan and route structure, but rather a simple planning-level exercise to illustrate the order of magnitude of the annual cost of providing such service.

Also similar to the scenario described earlier, Fehr & Peers noted that based on their own assessment and conversations with SamTrans staff, even if such funding were available, this corridor, with relatively low population density, would not likely be the optimal location to focus spending. Such funding, if available, would likely be better spent on other higher-density areas of the County in which a higher portion of trips would likely be attracted to transit.

This alternative would likely have minimal environmental impacts, but could have some, scattered right-of-way impacts because it may require acquisition of property/right-of-way from the properties along SR 1 in order to provide bus and transit facilities along the highway. The addition of some type of rail transit line through the project would result in extensive right-of-way and environmental impacts.

Increasing bus routes or headway times by lesser amounts would provide only a nominal increase in ridership. Based on: 1) the existing land use and commute patterns through this area; 2) the locations of destination uses (residential and employment areas); 3) the low existing transit ridership through this corridor; and 4) the minimal amount of right-of-way available, it is unlikely that service updates in this area could achieve a similar level of congestion relief as the Build Alternatives, and these options were not considered feasible. This alternative was primarily rejected because of the high operating cost over time, the high initial cost for some transit options, and the minimal improvement in congestion relief.

#### *1.4.8.10 School Bus Service to Elementary School at Vallemar*

This alternative would provide increased school bus service to the elementary school on Reina Del Mar Avenue. This alternative was evaluated by Fehr & Peers, the project traffic engineers.

SamTrans Route 16 is the local circulator transit route that provides service in Pacifica only during school commute periods. Ridership on Route 16 in the AM peak hour is primarily associated with school service, and is not typically comprised of commuters; this route does not operate in the PM peak commute period (4:00 to 6:00 PM). During the afternoon post-school period in which this route does operate (i.e., 2:50 to 3:40 PM), it operates at approximately 67 percent capacity with 148 riders.

In regards to the existing service and ridership for Route 16, the report states:

> *Generally, the route circulates throughout Pacifica, with stops at Terra Nova High School, the Pacifica Library, and the Linda Mar Park & Ride Lot. The route generally has four runs in the AM peak hour, each serving different origins and destinations, but is generally designed to provide supplemental service for school trips. Similarly, the route provides four runs in the afternoon, between approximately 2:50 and 3:40 PM. Total average ridership is 173 people in the AM peak hour and 148 in the afternoon peak hour. Assuming four vehicles in the AM and four in the afternoon, each with a capacity of approximately 55 passengers per vehicle, the ridership is just under 80 percent occupied. This suggests ridership is very good, but not so high that it constrains ridership.*

The Transit Analysis also included a discussion in response to specific questions raised by the California Coastal Commission during development of the proposed project, including a question related to the feasibility of providing additional school transit service as a way to reduce vehicle miles traveled (VMT). Specifically, the California Coastal Commission requested an analysis associated with the demand for additional transit service, measures that could be implemented to feasibly meet this demand and additional explanation regarding an assertion by the San Mateo County Transportation Authority (SMCTA) that additional transit service provided to the area would require a reduction elsewhere in the system. The Transit Analysis provided a response (on page 9) which stated:

> *Based on ridership numbers presented by SamTrans, while the school "tripper" service does operate at higher capacity levels than other service in the area, it is not operating at levels high enough to suggest demand is being suppressed by limited capacity. Therefore, providing increased service would not produce a substantial increase in riders compared to the existing situation. Additionally, school traffic typically affects only the morning peak period. Providing additional tripper service would not provide any effect to the severe PM peak period congestion in the area.*

*Finally, the previous memo prepared by SamTrans noted that additional service provided to this area would require a reduction somewhere else in the system. That statement was made in recognition that SamTrans operates with a very limited and fixed budget. In order to fund service enhancements in the study area, cost savings would likely have to be made in other locations. Given the discussion and analysis above regarding the efficacy of enhanced transit service in this study area, this trade-off would be undesirable.*

The existing Route 16 service in the area is not operating at levels high enough to suggest demand is being suppressed by limited capacity and as such, providing increased service to the Vallemar School would not likely produce a high increase in riders. Traffic counts collected in 2007 suggest that approximately 25 percent of peak direction traffic on SR 1 between Fassler and Reina Del Mar is coming from/traveling to south of Linda Mar Avenue. Providing additional school-related bus service could conceivably provide a small benefit for a portion of the congestion in the AM peak hour northbound commute, it would not likely be enough to significantly decrease traffic congestion through the area. In addition, the PM peak hour congestion in the area occurs well after school is out, so there would be no benefit from additional school bus service for the PM commute congestion in the southbound direction.

Some comments were received from the public that suggested a larger-scale increase in area-wide transit service meant to serve all schools. Although not explicitly evaluated for purposes of school-related traffic, Fehr & Peers did complete an analysis of what levels of overall area wide transit service increases would be required to achieve a notable shift in travel patterns (i.e., from private automobile to bus transit) such that the project's purpose and need would be met. Refer to section 1.4.8.9 for a discussion of this issue.

Overall, increases in school-related bus service would not be adequate to reduce the existing or expected future congestion in the area to levels such that the proposed project would not be warranted. This alternative was primarily rejected because it would not provide considerable benefit for the AM or PM commute period (northbound or southbound) and therefore, would not meet the purpose and need or the objectives of the proposed project.

#### *1.4.8.11 Moveable Cones or Barrier/Reversible Lane*

This alternative was indentified during the public input and scoping process and would involve installing a moveable concrete barrier to provide three lanes in the peak direction and one lane in the off-peak direction. Variations of this alternative include using moveable cones instead of a barrier and widening SR 1 to five lanes with movable cones or a barrier (providing a 3/2 lane split).

The variation with moveable cones would not be feasible for this location because it does not provide a positive physical barrier between oncoming lanes of traffic. The existing concrete median barrier was originally installed due to safety problems along this segment of SR 1. The use of a moveable barrier on the existing 4 lanes would provide a 3/1 split of the lanes during the peak hours. The single lane in the off-peak direction would not likely be adequate to handle the traffic demands and maneuverability for safety vehicles in the off-peak direction during emergencies.

The five-lane with movable barrier variation would likely provide adequate traffic capacity, but has the following associated complications:

1. Widening to provide the additional lane and standard shoulders would still be required.
2. Providing adequate signage, roadway striping, and traffic signal infrastructure to safely indicate the operation of turn lanes at varying times of the day would likely result in a highly confusing situation and would likely be considered a safety concern.
3. This alternative would require a steady revenue stream to pay for the ongoing operations and maintenance costs. The moveable barrier would need to be shifted at least twice per day, and perhaps up to four times per day. This operation is relatively labor-intensive and requires specialized equipment that would have to be purchased and maintained.
4. A qualified, ongoing labor force would have to be funded and maintained to operate the equipment and conduct the lane changes.

Because widening to five lanes would likely be necessary to meet the purpose of the project, this alternative would likely still result in impacts to sensitive species habitat (CRLF and SFGS) west of SR 1. Depending on the ultimate extent of widening necessary, it is not known whether the potential impacts to cultural resources and aesthetics would be similar to or less than the Build Alternatives. This alternative would result in some additional hydrology and water quality impacts due to an increase in impervious area. This alternative would have similar noise impacts, due to moving traffic closer to adjacent receptors and due to increased travel speeds during the peak hours, as the proposed Build Alternatives, as well as potential increased noise from moving a moveable barrier.

This alternative could have similar right-of-way impacts as the proposed Build Alternatives, since it may require acquisition of property/right-of-way from the properties along SR 1.

This alternative was primarily rejected because it would be very difficult to implement at the signalized intersections, and may result in a safety concern due to the complexity of signage and/or striping required. Because this design would require both an initial capital investment for the roadway widening and specialized equipment and ongoing operational cost, the long-term cost of this alternative would be much higher than the proposed Build Alternatives. There would also be traffic impacts in the off-peak direction if a fifth lane is not added.

### 1.4.9 Comparison of Alternatives Considered but Eliminated

Each of the alternatives was dropped from further consideration because either: 1) they did not provide traffic benefits that reasonably and considerably exceeded the project performance of the indentified build alternatives; and/or 2) they were determined to be infeasible due to the substantial additional right-of-way, construction, and/or ongoing operational and maintenance costs; and/or 3) they would result in significant additional environmental impacts beyond those of the proposed Build Alternatives, including additional visual and aesthetic impacts, impacts to sensitive biological resources, and potential impacts to cultural resources. Refer to the matrix in Table 1.7 for a summary of the reasons each alternative was eliminated from further consideration.

**TABLE 1.7**
**SUMMARY OF ALTERNATIVES CONSIDERED BUT WITHDRAWN**

| Concept | | Description | Feasibility / Effectiveness | Estimated Construction Cost | Further Study |
|---|---|---|---|---|---|
| Alternative 1 (Section 1.4.8.1) | Widen 4-lane to 6-lane - 0.8 miles | This alternative would widen from 4 lanes to 6 lanes from 460 feet south of Fassler Ave to 660 feet north of Reina Del Mar Ave. | This alternative would impacts wetlands and special status species habitat. This alternative would not provide traffic benefit to Year 2035 because third lane does not extend far enough south of Fassler Ave. intersection or far enough north of Reina Del Mar Ave. intersection. | $25 million | **No** |
| Alternative 2 (Section 1.4.8.2) | Widen 4-lane to 6-lane - 1.0 miles | Variations on the 1999 PSR version were explored in mid 2000s, such as widening 4 lanes to 6 lanes from 500 ft south of Fassler Ave to 1,700 ft north of Reina Del Mar Ave. *(Exhibit B1)*<br>- A variation of this idea includes splitting NB and SB directions of roadway through Quarry Site to go around existing wetlands. | This alternative would have Impacts to wetlands and special status species habitat. This alternative does not provide traffic benefit to Year 2035 because the third lane does not extend far enough south of Fassler Ave intersection or far enough north of Reina Del Mar intersection. It was determined during Coastal Commission consultations that impacting wetlands is not allowed. | $25-$35 million | **No** |
| Alternative 3 (Section 1.4.8.3) | Widen 4-lane to 6-lane - 1.3 miles | This alternative would widen from 4 lanes to 6 lanes from 1,500 feet south of Fassler Ave to 2,300 feet north of Reina Del Mar Ave. The alignment was shifted east to eliminate wetland impacts. The design team explored the idea of restoring the Calera Creek crossing.<br>- A second variation (C2) of this idea included a pedestrian overcrossing at Reina Del Mar Avenue.<br>- A third variation (C3) of this idea drops the 3rd southbound lane at Fassler Avenue and only two lanes continue south of Fassler. Calera Creek restoration idea is dropped under this variation.<br>- A fourth variation (C4), similar to C3, includes a landscaped median between San Marlo Way and Reina Del Mar Avenue. | This would provide improvement in traffic operations over existing conditions out to Year 2035 and would not impact wetlands like Concepts A and B. The pedestrian overcrossing at Reina Del Mar would not appreciably enhance traffic operations and would create a pedestrian safety problem since some people will likely still try to cross at grade (without a crosswalk and signal delay to protect them). The landscaped median variation (C4) would have more impacts and cost than the narrow median (C3) but with the same traffic operations. | $32-$40 million | **C1 - No**<br>**C2 - No**<br>**C3 - Yes**<br>**C4 - Yes** |
| Alternative 4 (Section 1.4.8.4) | Partial Widening at Reina Del Mar Avenue | This alternative consists of a five-lane or six-lane widening for a short segment north and south of Reina Del Mar intersection with a four-lane segment between the two intersections.<br>Variations of this idea analyzed widening for different length segments:<br>- 4 to 5 lanes for 800 ft (NB right-turn lane in/out of Reina Del Mar Avenue)<br>- 4 to 6 lanes for 1,100 ft<br>- 4 to 6 lanes for 1,700 ft<br>- 4 to 6 lanes for 2,300 ft | This alternative would improve capacity at Reina Del Mar Ave., but would shift the bottleneck to the south to the SR 1/Fassler Avenue intersection. | $6-$10 million | **No** |
| Alternative 5 (Section 1.4.8.5) | Grade Separation at Reina Del Mar Avenue | This would shift the SR 1 alignment on top of embankments at Reina Del Mar Avenue to separate highway from Reina Del Mar Ave. and use retaining walls to minimize impacts. This included the creek crossing restoration idea. Several variations on this theme were evaluated including:<br>- Tight diamond interchange with east side business driveways accessing directly to/from on and off ramps<br>- Tight diamond with one-way frontage road on the east side extending north from Harvey Way<br>- Southbound tight diamond with northbound hook ramps and two-way frontage road south of Reina Del Mar Ave. on east side | A grade separation would provide the most significant traffic operations benefit but would require on and off ramps with controlled access so driveways could not access directly to/from the ramps. The first variation with a simple tight diamond would not be feasible due to controlled access of the ramps. The other two variations would have much higher cost due to additional frontage road requirements. The City is not supportive of additional NB "out of direction" travel to access businesses on east side at Reina Del Mar Avenue with NB hook ramps option. The raised highway would create additional visual and noise impacts. There is also a potential for additional cultural resource impacts. | $50-$65 million | **No** |

| Concept | | Description | Feasibility / Effectiveness | Estimated Construction Cost | Further Study |
|---|---|---|---|---|---|
| Alternative 6 (Section 1.4.8.6) | Roundabout (Traffic Circle) | This alternative includes installing a roundabout in place of the traffic signal at either one or both intersections. | This would have significant business and R/W impacts at intersections with a roundabout/widening large enough to meet traffic demand. Additional right-turn slip ramps would be needed. The full six-lane widening would still be needed on SR 1 between Fassler Ave. and Reina Del Mar Ave. to make either or both roundabouts work. The multi-lane roundabouts required to meet traffic demand would be unsafe for pedestrian crossing and bicycle traffic due to the large number of uncontrolled traffic lanes a pedestrian or bicyclist would need to cross. | $40-$50 million | **No** |
| Alternative 7 (Section 1.4.8.7) | Frontage Road on West Side | This alternative would construct a two-way frontage road through the Quarry site from Dondee Way to Reina Del Mar Avenue. | This alternative would have a very high right of way cost, with minimal traffic benefit for highway throught traffic. | $8 million | **No** |
| Alternative 8 (Section 1.4.8.8 | Signal Interconnect & Signal Timing Improvements | This alternative would install signal interconnect cable between the two signals to coordinate timing of the green phases.<br>*(no exhibit)*<br>- A variation of this idea includes widening to add a 3rd lane in only the northbound direction. | The signal interconnect alternative would not provide an appreciable benefit due to the distance between the two signals. Traffic signal retiming would improve congestion initially based on existing traffic volumes, but then the benefit would dissipate by about Year 2015 and would offer little benefit as traffic demand increases in the future. | $0.3 million | **No** |
| Alternative 9 (Section 1.4.8.9) | Increased or Modified Transit Service | This alternative would provide increased transit service to areas and points both north and south via additional bus routes, increased bus headways (more busses), additional park-n-ride lots, additional feeder shuttles, etc. | This alternative would have a high operating cost over time, a high initial cost for some options, and would not provide significant improvement in congestion relief. | $10-30 million | **No** |
| Alterntive 10 (Section 1.4.8.10) | School Bus Service to Elementary School at Vallemar | This alternative would provide increased school bus service to the elementary school on Reina Del Mar Avenue. | This could provide a small benefit for a portion of AM peak commute congestion (NB), but not enough to significantly reduce backups.<br>This would not provide benefit for any of the PM commute congestion (SB). | not available | **No** |
| Alternative 11 (Section 1.4.8.11) | Moveable Cones or Barrier | This alternative would install moveable concrete barrier to provide 3 lanes in peak direction and 1 lane in off-peak direction.<br>- Another variation of this idea uses moveable cones instead of barrier.<br>- Another variation would include widening to 5 lanes w/ movable cones/barrier (3/2 split). | This would be very difficult to implement with signalized intersections; the movable barrier would conflict with left-hand turns at intersections. There would be high ongoing operations costs and traffic impacts in the off-peak direction if a 5th lane was not added. The movable cones would create a safety hazard since there would be no fixed barrier between opposing traffic. The 5-lane widening would have both initial widening construction cost & ongoing operations cost. | not available | **No** |
| *Notes:* | *Alt C4 is the Landscaped Median Build Alternative* | *Alt C3 is the Narrow Median Build Alternative* | | | |

## 1.5 PERMITS AND APPROVALS NEEDED

Construction of the proposed project will require permits/approvals from the governmental agencies listed in Table 1.8 below.

**TABLE 1.8**
**PERMITS AND APPROVALS NEEDED**

| Agency | Permit/Approval | Status |
|---|---|---|
| California Coastal Commission | Coastal Development Permit for work extending onto California Coastal Commission jurisdiction | Application will be submitted during final design |
| U.S. Fish and Wildlife Service | Biological Opinion | USFWS issued the BO for this project in January 2012 |
| Regional Water Quality Control Board | Compliance with the Caltrans and the General Construction Section 402 National Pollutant Discharge Elimination System (NPDES) permits | Compliance with the Department's Storm Water Management Plan (SWMP) and submittal of a Notice of Construction (NOC) to the RWQCB to obtain coverage under the Construction General Permit |
| City of Pacifica | Local Coastal Plan (LCP) Permit for work extending into the LCP area | Application will be submitted during final design |
| San Mateo County Transportation Authority (SMCTA) | Measure A Funding Approval | Funding during final design |
| State Transportation Improvement Program (STIP) | Funding Approval | Funding during final design |
| Golden Gate National Recreation Area (GGNRA) | Approval of use of lands for mitigation | Agreed to in concept – finalized after EIR process completed |

Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) into waters of the United States. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) addresses storm water and non-storm water discharges.

# CHAPTER 2 AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, & AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

| | |
|---|---|
| ***Introductory Note**: As part of the scoping and environmental analysis conducted for the project, the following environmental issues were considered but no adverse impacts were identified. Consequently, there is no further discussion regarding these issues in this document:* | |
| ▪ Farmlands | There are no farmlands located within or adjacent to the proposed improvements. |
| ▪ Timberlands | There are no timberlands located in the project vicinity. |
| ▪ Community Cohesion | The project will widen an existing highway that runs though the City and improve congestion. The improvements will not divide any community or neighborhood. |
| ▪ Wild & Scenic Rivers | There are no waterways designated as Wild & Scenic Rivers in the project area. The closest rivers with this designation are over 100 miles from the project area. |
| ▪ Energy | The project would not open new areas to development or result in a long-term increase in energy usage. When balancing energy used during construction and operation against energy saved by relieving congestion and other transportation efficiencies, the project would not have substantial energy impacts. |

## HUMAN ENVIRONMENT

### 2.1 LAND USE

#### 2.1.1 Existing and Future Land Use

The project segment of SR 1 extends from approximately 1,500 feet south of Rockaway Beach Avenue/Fassler Avenue to approximately 2,300 feet north of Reina Del Mar Avenue, a distance of approximately 1.3 miles. The entire project segment of SR 1 lies within the incorporated city of Pacifica.

Along the west side of SR 1, existing land uses consist of retail/commercial development along the highway. The Rockaway Beach commercial/retail area is opposite Fassler Avenue, where the street

name changes to Rockaway Beach Avenue, and contains hotels, restaurants, and beach access. South of San Marlo Way, between Old County Road and SR 1, the area of future SR 1 widening consists of undeveloped land, one lane of public parking, an Indian restaurant with an attached residence, and a closed former Kentucky Fried Chicken restaurant.

North of San Marlo Way, the west side of the SR 1 project alignment consists of undeveloped privately owned land (a former quarry) with mature trees along the SR 1 right-of-way. Near the Reina Del Mar Avenue intersection, there is an existing embankment along the western edge of the SR 1 roadway. This embankment is approximately 30 feet high and extends from approximately 1,000 feet north of the SR 1/Reina Del Mar Avenue intersection to approximately 700 feet south of the intersection (refer to Figures 1.3 through 1.5 and see Photo Simulation 5). Also west of the SR 1 project segment is the City of Pacifica Calera Creek Water Recycling/Waste Water Treatment Plant.

Retail/commercial uses, a church, restaurants, a few residences, and the City's Police Substation occupy parcels along the project alignment east of SR 1. Immediately north of Fassler Avenue, the development east of SR 1 is accessed via a short frontage road, Harvey Way.

There are no development projects under construction or pending approval in the vicinity of the SR 1 project segment. There is one application on file with the City of Pacifica for a 63 unit condominium/commercial development at the southeast corner of Fassler Avenue and SR 1. This development application is currently in "inactive" status.[24]

### 2.1.2 Environmental Consequences

#### 2.1.2.1 *Land Use Changes*

Most of the project would be constructed within the existing Caltrans or City of Pacifica right-of-way. However, as shown in Table 1.5, right-of-way acquisition will be necessary at a number of locations under either Build Alternative.

The total additional right-of-way required for the Narrow Median Build Alternative amounts to approximately 88,100 square feet. West of SR 1, right-of-way acquisition would be required from 12 existing parcels, extending for about 1,600 feet immediately north of the Fassler Avenue/Rockaway Beach Avenue intersection. East of SR 1, a proposed soil-nail retaining wall would encroach onto two parcels (018-14-090 and 018-014-230). However, because the height of these retaining walls and barriers would not exceed the height of the remaining embankments, the wall would not block views. See photo simulations 1 through 7 in Section *2.7 Visual/Aesthetics*, which illustrate the views before and after implementation of the project at several vantage points along the project alignment. A five-foot wide right-of-way acquisition strip and a 20-foot wide easement for utility relocation would be required from these two privately owned parcels (Our Savior's Lutheran Church and the adjacent parcel to the north) for approximately 380 feet (refer to Section *1.4.3*). This acquisition

[24] APN #022-012-020, 4545 Coast Highway, Source: http://www.cityofpacifica.org/civica/filebank/blobdload.asp?BlobID=2592, February 2009.

would impact the landscaping between the church parking lot and the existing pedestrian path but would not impact the size or location of the existing parking lot. There would be a temporary impact to access and parking during construction of the retaining wall and the utility relocations. The available landscaping strip would become narrower and have to be replaced with new landscaping. There would be no impact to the church structure.

The total additional right-of-way required for the Landscaped Median Build Alternative would amount to approximately 117,000 square feet. Under the Landscaped Median Build Alternative, the first 18 properties listed in Table 1.5 would have the same amount of right-of-way acquisition as the Narrow Median Build Alternative, because full acquisition is required for these parcels. The Lutheran Church property on the east side of SR 1 would also have the same right-of-way acquisition because the retaining wall for the landscaped median is in front of the sidewalk. Even though the sidewalk encroaches more onto the church property, because the retaining wall is further away, both alternatives require the same amount of right-of-way acquisition.

The property adjacent to the Lutheran Church and the Quarry site would have a larger area of right-of-way acquisition. There are five additional properties east of SR 1, near the Lumber Yard property, which would require right-of-way acquisition under the Landscaped Median Build Alternative (refer to Section *1.4.3*).

Acquisition would be by the County of San Mateo. The owners of any properties acquired for project right-of-way will be compensated for the loss and/or use in accordance with federal and state right-of-way requirements.

Indirect land use impacts such as noise and visual/aesthetics are discussed under their own headings in this document.

#### 2.1.2.2 *Consistency with State, Regional, and Local Plans and Programs*

*Regional Transportation Plan*

The project is listed in, and therefore consistent with, the Metropolitan Transportation Commission's *Transportation 2035*, which is the Regional Transportation Plan (RTP). It is also included in the adopted 2011 Transportation Improvement Program (TIP) for the San Francisco Bay Area.

*City of Pacifica Local Coastal Land Use Plan*

The project is consistent with the City of Pacifica Local Coastal Land Use Plan, which states that highway improvements should also increase the safety of existing intersections along SR 1, including access to the quarry (opposite Reina Del Mar Avenue) and Rockaway Beach Avenue. It also states that SR 1 should be considered a multi-modal travel corridor and pedestrian, bicycle, bus transit, and emergency vehicle access should be included in any planned improvements.

*Rockaway Beach Redevelopment Plan*

The project is consistent with the Redevelopment Plan for the Rockaway Beach Project Area, which calls for construction of right-of-way, intersection, and traffic control improvements to enhance vehicular and pedestrian circulation on Highway (SR) 1.

*Pacifica Bicycle Plan*

The project is consistent with the Pacifica Bicycle Plan, because the existing two-way bicycle/pedestrian path adjacent to the west edge of the highway north of Reina Del Mar Avenue would be would be upgraded by widening it from 8 feet to 10 feet, by increasing the separation between edge of path and edge of traveled way from 9 feet to 16 feet, and by installing a fence to provide a physical separation between the bicycle path and the highway. The improvements to the existing Class I two-way bicycle/pedestrian path will not change the class of the path or extend beyond Reina Del Mar Avenue. Bicycle/pedestrian access between Reina Del Mar Avenue and Rockaway Beach Avenue is served by an alternate Class I trail that leaves the highway at the main quarry road and extends in a curving route south to Pacifica State Beach. The existing two-way bicycle/pedestrian path west of the existing highway south of Rockaway Beach would not be altered by the highway widening.

*Pacifica General Plan*

The project is also consistent with the general plan of the City of Pacifica, which identifies SR 1 as a major transportation facility. The *Pacifica General Plan* contains a number of policies that are relevant to the proposed project:

<u>*Circulation Element Policy #4:*</u> *Provide access which is safe and consistent with the level of development.* The project is consistent with this policy since it proposes access and safety improvements to accommodate existing and projected traffic volumes.

<u>*Circulation Element Policy #9:*</u> *Development of safe and efficient bicycle, hiking, equestrian and pedestrian access within Pacifica and to local points of interest.* The project is consistent with this policy since it provides improved bicycle and pedestrian access within the project segment.

<u>*Circulation Element Policy #11:*</u> *Safety shall be a primary objective in street planning and traffic regulations.* The project is consistent with this policy since the proposed roadway and intersection modifications will improve vehicle, bicycle, and pedestrian safety within the project segment.

<u>*Circulation Element Policy #15:*</u> *Promote orderly growth in land uses and circulation*. The project is consistent with this policy since it will increase SR 1 capacity within the project segment to accommodate existing and projected traffic volumes, however; the project would not create any new connections to other roadways or areas, and the project would not open any new areas to development.

*Scenic Highways Element Policy #4: Encourage appropriate multiple recreational uses along scenic highways and routes other than auto.* The project is consistent with this policy since it provides improved bicycle and pedestrian access, as well as vehicle access, within the project segment.

### 2.1.2.3 *Coastal Zone*

**Regulatory Setting**

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

California has developed a coastal zone management plan and has enacted its own law, the California Coastal Act of 1976, to protect the coastline. The policies established by the California Coastal Act are similar to those for the CZMA; they include the protection and expansion of public access and recreation, the protection, enhancement and restoration of environmentally sensitive areas, protection of agricultural lands, the protection of scenic beauty, and the protection of property and life from coastal hazards. The California Coastal Commission (CCC) is responsible for implementation and oversight under the California Coastal Act. The CCC policies that are most relevant to the project and the site, as well as the project's consistency with those policies, are summarized in Table 2.1.

Just as the federal CZMA delegates power to coastal states to develop their own coastal management plans, the California Coastal Act delegates power to local governments (15 coastal counties and 58 cities) to enact their own local coastal programs (LCPs). LCPs determine the short- and long-term use of coastal resources in their jurisdiction consistent with the California Coastal Act goals. Either of the project Build Alternatives will require approval from the California Coastal Commission. A federal consistency determination may be needed as well. The City of Pacifica will need to determine the project's consistency with the LCP and approve work within the LCP area. The CCC will be responsible for approving a Coastal Development Permit (CDP) for work which is located in areas of the CCC's retained jurisdiction. The decision on the LCP by the City will also be appealable to the CCC.

The City of Pacifica Local Coastal Land Use Plan calls for safety and operational improvements to the southern portion of SR 1, the subject reach. The LCP notes that these improvements would include such things as safety improvements to intersections, widening the shoulders and moving lanes, providing a median strip, signalization and turning lanes. The intention of these improvements is not to increase the capacity of the roadway. Because SR 1 is considered Pacifica's lifeline, and its appearance and safety are critical to the City and its future, the following LCP policies are relevant to the project:

- *Safety and operational improvements and any future improvements shall ensure erosion control, protect coastal views and improve the visual edge of the highway.*

- *Highway 1 shall be considered as a multi-modal travel corridor. Consideration in planning improvements shall include pedestrian, bicycle, bus transit, and emergency vehicle access within the corridor.*

- *Landscaping shall be included in highway improvements to ensure erosion control, protect coastal views and improve the visual edge of the highway.*

**TABLE 2.1**
**CONSISTENCY OF PROJECT WITH CALIFORNIA COASTAL ACT POLICIES**
**(PUBLIC RESOURCES CODE DIVISION 20)**

| Article | Section and Policies | Project Consistency |
|---|---|---|
| Article 2<br>Public Access | *Section 30210 Access; recreational opportunities; posting*<br>In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse. | Either of the project Build Alternatives would be consistent with this policy, as the project would not impede or interfere with existing coastal access and recreational opportunities. |
| | *Section 30211 Development not to interfere with access*<br>Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation. | Either of the project Build Alternatives would be consistent with this policy, as the project would not impede or interfere with existing coastal access. |
| | *Section 30212 New development projects*<br>(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or, (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway. | Either of the project Build Alternatives would be consistent with this policy, as the project would not impede or interfere with existing coastal access. The existing two-way Class I bicycle/pedestrian path adjacent to SR 1, north of Reina Del Mar Avenue, would be constructed and upgraded along the western edge of the widened highway. The existing two-way bicycle/pedestrian path west of the existing highway and the former quarry property, as well as further south of Rockaway Beach Avenue, would not be altered or impacted by the proposed roadway widening under either build alternative. In addition, the sidewalks along the west side of SR 1 would be completed and upgraded to improve pedestrian connection (refer to Section 1.4.1.1). |

**TABLE 2.1**
**CONSISTENCY OF PROJECT WITH CALIFORNIA COASTAL ACT POLICIES**
**(PUBLIC RESOURCES CODE DIVISION 20)**

| Article | Section and Policies | Project Consistency |
|---|---|---|
| | | |
| | *Section 30214 Implementation of public access policies; legislative intent*<br>(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:<br>(1) Topographic and geologic site characteristics.<br>(2) The capacity of the site to sustain use and at what level of intensity.<br>(3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.<br>(4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter. | As described above, the project Build Alternatives have been designed to maintain and improve access, accounting for the site characteristics and management of access areas. The project has also been designed to minimize impacts on sensitive natural and biological resources including Environmentally Sensitive Habitat Areas (refer to Section 2.16-2.20). |
| Article 3 Recreation | *Section 30220 Protection of certain water-oriented activities*<br>Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses. | Either of the project Build Alternatives would be consistent with this policy, as the project would not impede or interfere with existing water-oriented recreational activities. |
| | *Section 30221 Oceanfront land; protection for recreational use and development*<br>Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area. | Either of the project Build Alternatives would be consistent with this policy, as the project would not impact or impede the future use of Oceanfront land for recreational use. |
| | *Section 30223 Upland areas*<br>Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible. | Either of the project Build Alternatives would be consistent with this policy, as the project would not change the land use of upland areas necessary to support recreational uses. |

**TABLE 2.1**
**CONSISTENCY OF PROJECT WITH CALIFORNIA COASTAL ACT POLICIES**
**(PUBLIC RESOURCES CODE DIVISION 20)**

| Article | Section and Policies | Project Consistency |
|---|---|---|
| Article 4 Marine Environment | *Section 30231 Biological productivity; water quality*<br>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 surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams. | Either of the project Build Alternatives would be consistent with this policy, as the project has been designed to minimize impacts on runoff and water quality, as well as sensitive biological resources and habitat areas (refer to Sections 2.9-2.10 and 2.16-2.20). |
| | *Section 30232 Oil and hazardous substance spills*<br>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. | Either of the project Build Alternatives would be consistent with this policy, as the project includes avoidance and minimization measures to minimize potential impacts related to hazardous substances (refer to Section 2.13). |
| | *Section 30236 Water supply and flood control*<br>Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (l) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat. | Either of the project Build Alternatives would be consistent with this policy, as the project has been designed to minimize impacts on runoff and water quality, as well as sensitive biological resources and habitat areas, including Environmentally Sensitive Habitat Areas (refer to Sections 2.9-2.10 and 2.16-2.20). |
| Article 5 Land Resources | *Section 30240 Environmentally sensitive habitat areas; adjacent developments*<br>(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.<br>(b) Development in areas adjacent to environmentally sensitive habitat areas | Either of the project Build Alternatives would be consistent with this policy, as the project has been designed to minimize impacts on sensitive biological resources and habitat areas, including Environmentally Sensitive Habitat Areas (refer |

**TABLE 2.1**
**CONSISTENCY OF PROJECT WITH CALIFORNIA COASTAL ACT POLICIES**
**(PUBLIC RESOURCES CODE DIVISION 20)**

| Article | Section and Policies | Project Consistency |
|---|---|---|
| | and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas. | to Sections 2.16-2.20). |
| | *Section 30244 Archaeological or paleontological resources*<br>Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required. | Either of the project Build Alternatives would be consistent with this policy, as the project includes avoidance and minimization measures to minimize potential impacts to cultural resources (refer to Section 2.8). |
| Article 6 Development | *Section 30250 Location; existing developed area*<br>(a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels. | Either of the project Build Alternatives would be consistent with this policy, as the project consists of widening the existing SR 1 roadway within a developed area. |
| | *Section 30251 Scenic and visual qualities*<br>The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of | The two Build Alternatives would result in minor changes to visual resources within the project limits. The urban and natural character of the SR 1 project alignment would remain similar to the existing character. Generally, this change would not affect the roadway users or those who view the roadway and intersections from adjacent communities. |

**TABLE 2.1**
**CONSISTENCY OF PROJECT WITH CALIFORNIA COASTAL ACT POLICIES**
**(PUBLIC RESOURCES CODE DIVISION 20)**

| Article | Section and Policies | Project Consistency |
|---|---|---|
| | Parks and Recreation and by local government shall be subordinate to the character of its setting. | While the project would result in the removal of mature trees along the west side of SR 1, views of the coastal areas on the western side of the roadway could be enhanced with the removal of this vegetation The new roadway and hardscape features would not displace the existing natural features. The Landscaped Median Build Alternative would partially screen the commercial and residential development adjacent to the roadway for the traveler.<br><br>The project would require additional right-of-way boundaries along some portions of the alignment; however these areas would be constructed on new embankment or excavated into existing man-made embankments and would not proportionally displace existing natural features.<br><br>For these reasons, the project Build Alternatives would generally be consistent with this policy (refer to Section 2.7 and 2.22). |
| | *Section 30252 Maintenance and enhancement of public access*<br>The location and amount of new development should maintain and enhance public access to the coast by (1) facilitating the provision or extension of transit service, (2) providing commercial facilities within or adjoining residential development or in other areas that will minimize the use of coastal access roads, (3) providing nonautomobile circulation within the development, (4) | Either of the project Build Alternatives would be consistent with this policy, as the project has been designed to facilitate transit and non-automobile circulation along the alignment. The project would not change the intensity of nearby land uses or overload nearby coastal |

**TABLE 2.1**
**CONSISTENCY OF PROJECT WITH CALIFORNIA COASTAL ACT POLICIES**
**(PUBLIC RESOURCES CODE DIVISION 20)**

| Article | Section and Policies | Project Consistency |
|---|---|---|
| | providing adequate parking facilities or providing substitute means of serving the development with public transportation, (5) assuring the potential for public transit for high intensity uses such as high-rise office buildings, and by (6) assuring that the recreational needs of new residents will not overload nearby coastal recreation areas by correlating the amount of development with local park acquisition and development plans with the provision of onsite recreational facilities to serve the new development. | recreation areas. |
| | *Section 30253 Minimization of adverse impacts*<br>New development shall do all of the following:<br>(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.<br>(b) 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.<br>(c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.<br>(d) Minimize energy consumption and vehicle miles traveled.<br>(e) Where appropriate, protect special communities and neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses. | Either of the project Build Alternatives would be consistent with this policy, as the project has been designed to minimize risks to life and property. Geotechnical, flooding, erosion, and air quality analyses have been completed as part of the review process for this project (refer to Sections 2.9-2.11 and 2.14).<br><br>The proposed roadway improvements would not change the location or intensity of existing land uses in the area, and therefore, would not significantly increase energy consumption or vehicle miles traveled. |
| | *Section 30254 Public works facilities*<br>New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this division; provided, however, that it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road. Special districts shall not be formed or | Either of the project Build Alternatives would be generally consistent with this policy, as the project consists of widening the existing SR 1 roadway within a developed area. The project would not induce development or open additional areas to development. The project is |

**TABLE 2.1**
**CONSISTENCY OF PROJECT WITH CALIFORNIA COASTAL ACT POLICIES**
**(PUBLIC RESOURCES CODE DIVISION 20)**

| Article | Section and Policies | Project Consistency |
|---|---|---|
| | expanded except where assessment for, and provision of, the service would not induce new development inconsistent with this division. Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development. | proposed to remove an existing bottleneck for traffic congestion and improve the level of service operation in the immediate project area. While the proposed widening and intersection improvements would improve traffic operations and would increase the capacity of SR 1 at the site itself, the overall capacity of SR 1 would not substantially change because the SR 1 segments north and south of the project would remain unchanged.<br><br>As described above, the project would not change the type or intensity of land uses near the alignment and would not impact public recreation, commercial recreation, or visitor-serving land uses. |

The project would be consistent with these policies since either Build Alternative would provide improved bicycle and pedestrian access, as well as vehicular access, within the project segment (refer to Section *2.6 Traffic & Transportation/Pedestrian & Bicycle Facilities*). The project would also include erosion control and storm water detention measures (refer to Section *2.9 Hydrology and Floodplain* and *2.10 Water Quality and Storm Water Runoff*). While the two Build Alternatives would require the removal of mature landscaping and trees along the highway, particularly the mature trees west of SR 1 north of San Marlo Way, the project would include new landscape planting and would protect and/or improve coastal views (refer to Section *2.7 Visual/Aesthetics*).

#### 2.1.2.4 *Parks and Recreational Facilities*

Within the project limits, there are two public parks that are adjacent to SR 1 and are owned and managed by the National Park Service (NPS) located adjacent to SR 1: Mori Point, a 105-acre public park of the Golden Gate National Recreation Area (GGNRA), is located west of SR 1, north of the water treatment plant; and the larger (1,158-acre) Sweeney Ridge GGNRA is located on the east side of SR 1, at the north end of the project alignment. Both of these parks are largely undeveloped and consist of trails and protected wildlife areas.

An existing eight-foot wide Class I bicycle/pedestrian path extends parallel along the west side of SR 1 from Mori Point Road south to Reina Del Mar Avenue. This path provides bicycle and pedestrian access to the City bike path north of Mori Point Road, and the path which follows Calera Creek through the former quarry property down to the Pacific Ocean and connects with the Rockaway Beach neighborhood. There is a nine-foot pavement separation from traffic on the westbound side of SR 1. There is currently no physical barrier separating the existing path from traffic. The project will include improvements to the path by widening, proving additional pavement separation, and a physical barrier between the path and the SR 1 traffic. These upgrades will improve the safety for path users and will improve the overall path conditions in the area. The associated improvements will constitute a "net benefit" within the meaning of Section 4(f) (refer to Appendix H).[25]

The project will not require right-of-way from either the Mori Point or Sweeney Ridge GGNRA under either Build Alternative. Indirect effects (e.g., noise and visual) at these parks will not be substantial; see Section *2.7 Visual/Aesthetics*, and Section *2.15 Noise* for details. Some mitigation for impacts to biological resources is proposed on the Mori Point GGNRA property (refer to Section *2.17 Wetlands and Other Waters* and Section *2.20 Threatened and Endangered Species*).

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

No avoidance, minimization, or mitigation measures are proposed.

[25] A Programmatic 4(f) analysis was completed per Caltrans requirements based upon public comments pertaining to the project-related effects to the existing two-way Class I bicycle/pedestrian path west of the existing highway that extends from Mori Point Road to near Reina Del Mar Avenue. The evaluation of potential Section 4(f) resources with and adjacent to the State Route 1/Calera Parkway/Highway 1 Widening project includes this bike path, which was addressed in the responses to comments and updates to the text of the EIR/EA.

## 2.2 GROWTH

### 2.2.1 Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which establish the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental consequences of all proposed federal activities and programs. This provision includes a requirement to examine indirect consequences, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations, 40 CFR 1508.8, refer to these consequences as "secondary impacts." Secondary impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act (CEQA) also requires the analysis of a project's potential to induce growth. CEQA guidelines, Section 15126.2(d), require that environmental documents "…discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."

### 2.2.2 Affected Environment

The City of Pacifica's population was estimated at 40,000 in 2009. Pacifica is characterized by a balance of developed and undeveloped land, of hillsides and valleys, and is strongly imprinted by its environment. Pacifica grew quickly in the 1950s and '60s, but has grown very slowly since that time. Based on the Association of Bay Area Government's (ABAG's) *Projections 2007*, the latest version of ABAG growth projections at the time the analysis was completed, population growth is likely to be in the range of 1,000 to 1,500 people per decade, continuing a slow rate of growth that dates to the 1970s. Current projections are for the population to reach approximately 43,000 by the year 2030.

An estimated 1,110 acres in the City are undeveloped (not including protected open space) and another 361 acres are in agricultural use. Underutilized urban land, aging shopping centers and commercial districts comprise another 163 acres within the City. Potential development sites within the City could accommodate an estimated 1,457 housing units and 2.1 million square feet of commercial space, based on current development regulations. This is more than is projected to be needed to accommodate future growth. However, much of the land has difficult access, competing demands for habitat protection, or fractured ownership. The former Rockaway Quarry site, which accounts for 80 percent of the City's commercial development potential, requires a public vote for any development that includes residential uses.

SR 1 is a regional facility that serves other areas, besides the city of Pacifica, and as such, the traffic on SR 1, including future traffic, comes from other areas in the region, outside of Pacifica. Much of the land uses in San Mateo County that contribute traffic to the project area portion of SR 1 lie in the "Coastside" subarea of the County, defined by ABAG as the city of Half Moon Bay, the city of Pacifica, unincorporated areas around Half Moon Bay, and the county "remainder" (i.e., rural, unincorporated areas of the County not associated with specific cities or towns). This is primarily due to residential uses to the south and employment in the San

Francisco area to the north. For this reason, projected growth rates are not limited to the projections for the immediate area of Pacifica. Thus, the major influence on traffic flows in the Pacifica area is the growth in regional households.

Based on ABAG's *Projections 2007*, household growth is expected to occur at just below 0.5 percent annually, and job growth is expected to occur just above the projected annual traffic growth rate of 0.75 percent. The primary urban area that contributes peak traffic through the project reach is the Half Moon Bay region. In summary, the growth estimates from *Projections 2007* show that the total household growth in San Mateo County, the Coastside subarea, and the city of Half Moon Bay are all expected to occur at an annual rate consistent with a traffic growth rate of 0.75 percent.

### 2.2.3 Environmental Consequences

The project is located within an urbanized area of the city of Pacifica and its construction would not open additional areas to development. The project is proposed to remove an existing bottleneck for traffic congestion and improve the level of service operation in the immediate project area. While the proposed widening and intersection improvements would improve traffic operations, the overall capacity of SR 1 would not substantially change because the SR 1 segments north and south of the project would remain unchanged. Similarly, the overall capacity of Fassler Avenue/Rockaway Beach Avenue and Reina Del Mar Avenue will not substantially change because the project would not add any new through lanes to those roadways.

The project's potential to influence growth was evaluated in accordance with the FHWA guidance document entitled "Guidance for Preparers of Growth-Related, Indirect Impact Analyses", and the screening criteria. The widening of SR 1 between just south of Fassler Avenue/Rockaway Beach Avenue and just north of Reina Del Mar Avenue from two to three lanes in each direction would provide increased *throughput* capacity through the two study intersections (emphasis added). The project proposes to maintain access to SR 1 from nearby parcels but would not change or create any new connections for accessibility to other roadways or areas, and the project would not open any new areas to development. Because the project would reduce delay through the project segment, this time savings would improve the accessibility to land uses in the site area. The project is designed to alleviate a localized bottleneck only within the project reach. Because the project would not change the number or configuration of lanes on SR 1 to the north or south of the project area, the project Build Alternatives are not anticipated to change regional trip distribution or volumes on SR 1 segments north and south of the project area.

The project traffic impacts are described in Section 2.6.3, based primarily on a technical Traffic Operations Analysis Report that was prepared for the project in July 2008 and addenda to that report completed in December 2009, June 2010, and April 2011 (refer to Appendix G). Under the year 2015 conditions and the year 2035 conditions, the proposed Build Alternatives would not directly generate additional traffic trips or change the overall distribution of trips in the site area, and therefore, would not substantially affect the operations of other roadway segments beyond the immediate project site area and would not affect the operations of local streets in the area. This would accommodate projected long term traffic demand; the proposed roadway project would not itself generate traffic.

Because the proposed project would not create any new roadway connections or increase the capacity of existing roadways, the project would not encourage development or changes in land use in the surrounding environment, or induce additional travel, all of which are elements of growth. Given the existing zoning controls, particularly for the former quarry property, the fact that the site is within the LCP area and CCC jurisdiction, and that the site is physically constrained by existing development, natural features, and jurisdictional habitat areas, the project would not substantially increase development pressure or influence growth in the site area. No reasonably foreseeable growth is predicated on the proposed project (refer to Section 1.2.3).

No other capacity improvement projects are identified in the *Transportation 2035 Regional Transportation Plan* or proposed by Caltrans or the SMCTA in the vicinity of the project area to the north or south on SR 1 (refer to Section 2.1.2.2).

The Traffic Operations Analysis Report also evaluated whether growth projections, as described above, support the use of historical information to produce a future growth rate estimate. The peak traffic flows on this portion of SR 1 are northbound in the morning and southbound in the evening. Based on the information in the Traffic Operations Analysis Report, an annual growth rate of 0.75 percent was determined to represent a reasonable and conservative growth rate for background traffic along SR 1, and was determined to be consistent with recent traffic counts, the MTC model, and projections of future development in coastal San Mateo County. The Traffic Operations Analysis Report included traffic projections from future development planned for in the approved general plans of the cities in San Mateo County, and also accounted for planned growth in the region as well as planned improvements to the transportation network. The proposed improvements have been designed to provide an appreciable traffic benefit for at least 20 years, in accordance with Caltrans design policy. After that time, traffic conditions will be evaluated, and if further improvements are deemed necessary, they will be considered and evaluated at that time.

There are no pending or recently-approved projects whose construction is conditioned upon the implementation of the project. Given the project's location and physical constraints, as well as resource agency jurisdictions, the project would have little influence on future growth in the region. While there could be some perceived pressure to develop the former quarry property with a widened highway in place, development of the former quarry property is not conditioned on or tied to additional highway capacity. Any development proposal on that property would be evaluated through its own review process by the City and the California Coastal Commission.

The project would not substantially influence growth or result in any direct growth-inducing impacts because no development is tied to the construction of the project. The word "development" used in this statement encompasses a wide range of land use changes that could occur through new construction projects, such as additional housing and retail. Indirect growth-inducing impacts would be minimal because the project does not include the construction of extended segments of new through lanes on the freeways or local streets. Widening this segment of SR 1 would increase the capacity of the highway at this location; however, the overall capacity of SR 1 through this region would not be changed, and the SR 1 traffic carrying capacity is not by itself an impediment to growth in the area.

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

No avoidance, minimization, or mitigation measures are proposed.

## 2.3 RELOCATIONS AND REAL PROPERTY ACQUISITION

### 2.3.1 Regulatory Setting

Caltrans' Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix C for a summary of the RAP.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U.S.C. 2000d, et seq.). Please see Appendix B for a copy of Caltrans' Title VI Policy Statement.

### 2.3.2 Affected Environment

Most of the proposed improvements would be constructed within the existing Caltrans and City of Pacifica rights-of-way. There are several locations, however, under both alternatives, where the improvements would require additional right-of-way (refer to Table 1.5 in Section *1.4.3* of this document). The right-of-way requirements would be less under the Narrow Median Build Alternative than under the Landscaped Median Build Alternative.

There is one single-family residence that would be acquired by the project, located at 425 Old County Road. This residence is attached to a commercial (restaurant) building fronting SR 1 via a covered walkway. The residence and attached restaurant were constructed in 1952. The residence, an approximate 1,200-1,500 square foot, wood-frame, two-story house, is a simply detailed, stucco-covered cube shape with a flat roof. The residence occupies approximately one-half of the 6,284 square foot lot. There are no other residences in the immediate vicinity of this structure. The commercial (restaurant) building would be acquired by the project as well and is located at 4430 Coast Highway. The building is approximately 800 square feet. The residence and commercial (restaurant) building are occupied.

There is an additional commercial (restaurant) building fronting SR 1 that would be acquired by the project, located at 4408 Cabrillo Highway. The commercial (restaurant) building is approximately 2,500 square feet and is vacant.

### 2.3.3 Environmental Consequences

The project will necessitate the relocation of the residents living in the one single-family dwelling located at 425 Old County Road and the relocation of the commercial (restaurant) occupant located at 4430 Coast Highway.

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

If, after consideration of all public comments in light of project impacts, Caltrans approves either of the Build Alternatives, one residential property would be acquired at fair market value. Residents would receive relocation assistance in accordance with the provision of the Caltrans RAP. The type of relocation assistance provided would vary on a case-by-case basis, depending on such factors as whether the occupant is an owner or renter, how long the occupant has lived in the home, cost differential between existing and replacement housing, etc. For a summary of the RAP, please see Appendix C of this document.

The size and type of residence being acquired is relatively common in neighborhoods in Pacifica and San Mateo County. Therefore, obtaining replacement housing for the residents would not be problematic.

## 2.4 ENVIRONMENTAL JUSTICE

### 2.4.1 Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* signed by President Clinton on February 11, 1994. This Executive Order directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services (HHS) poverty guidelines. The 2011 Annual Update for the HHS Poverty Guidelines included $22,350 annual income for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project. Caltrans' commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director, which can be found in Appendix B of this document.

### 2.4.2 Affected Environment

For the purpose of determining whether the project would result in disproportionate impacts to minority and/or low-income populations, an "environmental justice" study area was defined consisting of the census blocks (subsets of one census tract) that encompass the land uses located adjacent to SR 1 within the project limits, as shown on Figures 1.4 and 1.5. The demographic characteristics of the population within the study area were then compared to that for the city of Pacifica as a whole.

As shown in Table 2.2, the percentage of each minority population within the study area is lower than, or the same as, that found throughout the city of Pacifica as a whole. Similarly, the percentage of the population with income below the DHHS poverty guideline is lower (two percent) within the

project census tract than for the city of Pacifica as a whole (three percent). Therefore, there would be no disproportionate economic impacts due to the Build Alternatives.

No minority or low-income populations that would be adversely affected by the proposed project have been identified as determined above. Therefore, this project is not subject to the provisions of Executive Order 12898.

### 2.4.3 Environmental Consequences

As discussed above, the percentages of minority and low-income populations that are present in the project area are generally less than that of the community as a whole. No minority or low-income populations would be disproportionally and adversely affected by the proposed project.

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

No avoidance, minimization, or mitigation measures are proposed.

**TABLE 2.2**
**EXISTING DEMOGRAPHICS IN THE PROJECT AREA**

| | City of Pacifica | Census Blocks Adjacent to Proposed Project |
|---|---|---|
| **POPULATION** | | |
| Estimated (2000) | 38,390 | 1,597 |
| **ETHNICITY (2000)** | | |
| African American | 3% | 1% |
| American Indian | >1% | >1% |
| Asian | 15% | 5% |
| Pacific Islander | >1% | >1% |
| White | 70% | 86% |
| Other | 4% | 3% |
| Multi Racial | 7% | 5% |
| % Minority of Total Population | 30% | 14% |
| Hispanic (of any race)* | 15% | 10% |
| **HOUSEHOLDS (2000)** | | |
| Total Number | 13,994 | 608 |
| Persons/Household | 2.73 | 2.62 |
| | **City of Pacifica** | **Project Census Tract #6031*** |
| **ECONOMICS**** | | |
| Labor Force Participation (2000) | 72% | 74% |
| Median Household Income (1999)*** | $71,731 | $72,321 |
| % of Population Living Below Poverty Line (2000) | 3% | 2% |

**Note:** Numbers may not total 100% due to rounding. Some entries are actual based upon reported data, while others are estimated.

* "Hispanic or Latino" is not considered a "race" by the Census. Rather, it is a cultural/ethnic classification that overlaps with race. Persons who identified themselves as "Hispanic or Latino" also identified themselves with a race or combination of races.

** No census block-specific data was available for comparison regarding economics. Economic issues were considered using statistics from the city of Pacifica as a whole, compared with overall census data from the primary tract where the proposed project would take place.

*** The US Census Bureau defines income levels as follows:

Low Income ( less than $50,000)
Moderately Low Income ($50,000-$69,999)
Moderately High Income ($70,000-$89,999)
High Income ($90,000 or more)

**Sources:** US Census Bureau, American Fact Finder

## 2.5 UTILITIES/EMERGENCY SERVICES

### 2.5.1 Affected Environment

Various utility lines (e.g., gas, electric, water, communications, sanitary sewer, stormwater, etc.) are located within or cross under SR 1 in the project area. Utility lines are also located within the local streets near SR 1 in the project vicinity.

The City of Pacifica's sewer treatment plant is located adjacent to the project alignment, just west of SR 1 and north of the SR 1/Reina Del Mar Avenue intersection (refer to Figure 1.3). The City of Pacifica's police station is located just east of SR 1 and north of the Reina Del Mar intersection.

### 2.5.2 Environmental Consequences

Where necessary to construct the proposed project, some existing utility lines would be relocated under either Build Alternative. Given the additional right-of-way acquisition needed, the Landscaped Median Build Alternative would require more utility relocation than the Narrow Median Build Alternative. Such utility work would not result in disruption of utility services in the project area because existing lines would not be disconnected prior to installation of the relocated lines.

The project would not affect the operation of the Pacifica sewer treatment plant, nor would it require any right-of-way acquisition from the sewer treatment plant property. Similarly, the project would not affect the operation of the police station, nor would it require any right-of-way acquisition from the police station property.

Prior to project construction, emergency service providers would be contacted to ensure that proper emergency access is maintained. Construction activities would occur in stages in order to minimize disturbance and maintain circulation and access through the project area on SR 1. Emergency services would directly benefit from the proposed project in that, by reducing peak commute period congestion, emergency vehicle response times would be reduced.

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

No avoidance, minimization, or mitigation measures are proposed.

# 2.6 TRAFFIC AND TRANSPORTATION/ PEDESTRIAN AND BICYCLE FACILITIES

## 2.6.1 Regulatory Setting

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

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

## 2.6.2 Affected Environment

The information in this section is based primarily on a technical "Traffic Operations Analysis Report" that was prepared for the project in July 2008 and addenda to that report completed in April 2011. Copies of the study and addenda are available for review at the locations listed inside the front cover of this document.

The study area for the traffic and transportation analysis was defined to include the project limits and the adjacent areas that will (or could) be affected by the proposed improvements. The study area includes the segment of SR-1 in the project vicinity, as well as nearby local streets and intersections.

### 2.6.2.1 *Existing Roadway Network*

*State Route 1 (SR 1)* is a north-south roadway that extends along the California coastline. Generally, SR 1 is a two-lane roadway, winding along the state's coastal bluffs. In Pacifica, near the study area, SR 1 widens to four lanes. Just north of the study area, SR 1 becomes a freeway for a short segment before merging with Interstate 280. Within the study area, SR 1 experiences peak period congestion in the northbound direction during the morning peak periods and in the southbound direction in the evening.

*Fassler Avenue* is a two-lane roadway that extends east of SR 1 into the hills above Pacifica. A number of residential streets connect to Fassler, which provides access from residential areas to SR 1. Near its intersection with SR 1, Fassler Avenue widens to four lanes. Fassler Avenue experiences congestion in the westbound direction (approaching SR 1) in the morning peak period. Fassler Avenue is relatively uncongested in the evening peak period because traffic flow is constrained along SR 1 approaching Fassler Avenue.

*Rockaway Beach Avenue* extends west of SR 1 from the Fassler Avenue intersection and provides access to a small business and shopping district and serves relatively small traffic volumes.

*Reina Del Mar Avenue* is a short two-lane street extending east of SR 1. Several small streets connect to Reina Del Mar Avenue, which provides access to SR 1. Vallemar Elementary School is located on the north side of Reina Del Mar Avenue, east of SR 1. In the morning peak period, a relatively high volume of traffic uses Reina Del Mar to access the elementary school. The signal at SR 1/Reina Del Mar limits the amount of traffic that can enter SR 1 from Reina Del Mar Avenue. As a result, during the peak period near the start of school, substantial queuing occurs on Reina Del Mar Avenue from parents departing the school after dropping off students.

#### 2.6.2.2 *Existing Public Transit*

Transit service in Pacifica is provided by the San Mateo County Transit District, known as SamTrans. SamTrans operates four bus routes in Pacifica, all of which travel on SR 1 and have stops at Crespi Drive, Fassler Avenue, and/or Reina Del Mar Avenue. Paratransit services are also provided by SamTrans to residents throughout San Mateo County with disabilities and mobility impairments.

#### 2.6.2.3 *Existing Bicycle and Pedestrian Facilities*

Pedestrian facilities can include sidewalks, crosswalks, and pedestrian signals. North of Reina Del Mar Avenue, there is a sidewalk on the west side of SR 1; between Reina Del Mar Avenue and Fassler Avenue, the sidewalk is on the east side of SR 1. South of Fassler Avenue, there is a sidewalk on the west side of SR 1. Popular recreational trails are located west of the project site and provide waterfront access. Crosswalks with pedestrian signals are installed at Crespi Drive, Reina Del Mar Avenue, and Fassler Avenue. The existing pedestrian facilities are not compliant with the latest Americans with Disabilities Act (ADA) requirements.

An existing eight-foot wide Class I bicycle/pedestrian path extends parallel along the west side of SR 1 from Mori Point Road south to Reina Del Mar Avenue. This path provides bicycle and pedestrian access to the City bike path north of Mori Point Road, and the path which follows Calera Creek through the former quarry property down to the Pacific Ocean and connects with the Rockaway Beach neighborhood. There is a nine-foot pavement separation from traffic on the westbound side of SR 1. There is currently no physical barrier separating the existing path from traffic.

According to the Pacific Bicycle Plan, the intersection of SR 1 and Reina Del Mar Avenue is the southern terminus of the officially-designated two-way Class I bike path. The unofficial bikeway divides at the intersection of SR 1 and Reina Del Mar, with northbound traffic on the east side of the Highway and southbound traffic on the west.

Class II Bicycle Lanes are located on both sides of SR 1 from Crespi Drive to Fassler Avenue. The remainder of SR 1 is designated as a Class III Bicycle Route with a shoulder that accommodates bicycles. The shoulders on SR 1 would be striped as Class II Bicycle Lanes with the implementation of the *San Mateo County Comprehensive Bicycle Route Plan*.

### 2.6.2.4 *Existing Traffic Conditions*

**Intersection Levels of Service**

Local street performance is measured using the "level of service" (LOS) concept, whereby traffic demand is evaluated in the context of capacity. Since intersections are a key factor in determining the capacity of local streets, the adopted procedures of most jurisdictions focus on peak-hour operations at intersections. The methodology computes a level of service taking into account factors such as the demand for each traffic movement (i.e., left turns, straight, right turns), the number of lanes, and (where applicable) signal timing. As summarized in Table 2.3, level of service can range from "LOS A," representing free-flow conditions, to "LOS F," representing jammed/over-saturated conditions.

Although the intersections near the project site are operated by the Department, it has traditionally been the Department's policy to adhere to locally adopted operational performance standards. The City of Pacifica has adopted a standard of LOS D or better for signalized intersections.

The traffic analysis prepared for this project evaluated the peak-hour operations at the two intersections within the project area, which were chosen based on their proximity to the proposed improvements. These two intersections are shown on Figure 2.1.

**TABLE 2.3**
**SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS**

| Level of Service | Description | Average Control Delay Per Vehicle (Seconds) |
|---|---|---|
| A | Insignificant delays: No approach phase is fully utilized and no vehicle waits longer than one red indication. | Up to 10.0 |
| B | Minimal delays: An occasional approach phase is fully utilized. Drivers begin to feel restricted. | 10.1 to 20.0 |
| C | Acceptable delays: Major approach phase may become fully utilized. Most drivers feel somewhat restricted. | 20.1 to 35.0 |
| D | Tolerable delays: Drivers may wait through more than one red indication. Queues may develop but dissipate rapidly, without excessive delays. | 35.1 to 55.0 |
| E | Significant delays: Volumes approaching capacity. Vehicles may wait through several signal cycles and long vehicle queues from upstream. | 55.1 to 80.0 |
| F | Excessive delays: Represents conditions at capacity, with extremely long delays. Queues may block upstream intersections. | Greater than 80.0 |

**Source**: Transportation Research Board, 2*000 Highway Capacity Manual*, (Washington D.C. 2000)

### Peak-Hour Traffic Volumes

As described previously in Section *1.2.2 Need for the Project*, the project area currently experiences heavy volumes of traffic on SR 1 with levels of service (LOS) E and F. Table 2.4 shows the existing peak-hour LOS at the study intersections. Under existing conditions, during the AM and PM peak hours, the two study intersections in the immediate project area (SR 1/Reina Del Mar Avenue and SR 1/Fassler Avenue/Rockaway Beach Avenue) currently operate at LOS E or F. Therefore, both of the studied intersections are currently operating below acceptable levels of service, based on City of Pacifica and Caltrans performance standards.

**TABLE 2.4**
**EXISTING INTERSECTION LEVEL OF SERVICE AND EFFECTS OF PROJECT ON EXISTING CONDITIONS[1]**

| | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| **Intersection[2]** | **Delay (seconds)** | **LOS** | **Peak Hour Demand Served[3]** | **Delay (seconds)** | **LOS** | **Peak Hour Demand Served[3]** |
| SR 1/Reina Del Mar Avenue (without Project) | 66 | E | 93% | 138 | F | 89% |
| SR 1/Reina Del Mar Avenue (with Project) | 43 | D | 100% | 32 | C | 100% |
| SR 1/Fassler Avenue (without Project) | 195 | F | 93% | 117 | F | 88% |
| SR 1/Fassler Avenue (with Project) | 41 | D | 100% | 38 | D | 100% |

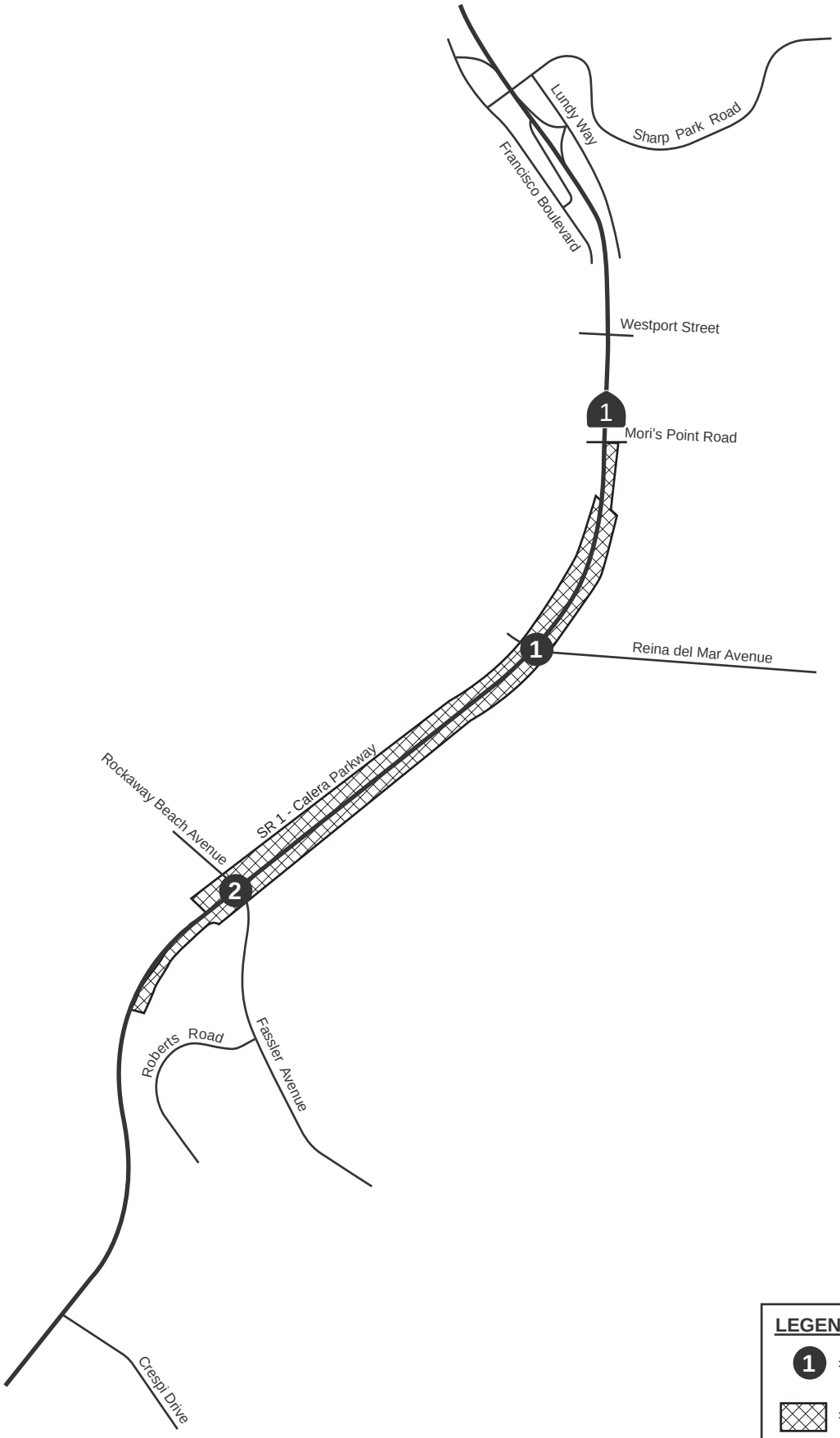
**Notes:**
[1] This table shows the intersection operations under existing conditions. This table also illustrates how the project would affect the existing peak-hour operations of these intersections; it provides a direct comparison to existing conditions and excludes any changes due to planned growth and/or any planned transit or roadway improvement projects in the area.

[2]Both intersections are signalized. The locations of these intersections are shown on Figure 2.1.

[3]In some circumstances, due to statistical model variations, volume served was reported as less than 100% even though visual inspection showed the queues clearing in each cycle. Therefore, in circumstances when volume served was 95% or higher, the results shown in the table were rounded to 100%.

Source: Fehr & Peers, April 2011.

Similar to intersection LOS, vehicle queue lengths and travel times are different measurements of congestion and delay, and also indicate the performance of a roadway facility. Table 2.5 shows statistics from the traffic model regarding existing average travel times, as well as average and maximum observed vehicle queues for both project intersections.




TRAFFIC STUDY INTERSECTIONS

FIGURE 2.1

**TABLE 2.5**
**EXISTING SR 1 TRAVEL TIMES AND QUEUES AND EFFECTS OF PROJECT ON EXISTING CONDITIONS[1, 3]**

| | Travel Time (Minutes)[2] | Average Reina Del Mar Avenue Queue (feet) | Maximum Reina Del Mar Avenue Queue (feet) | Average Fassler Avenue Queue (feet) | Maximum Fassler Avenue Queue (feet) |
|---|---|---|---|---|---|
| **AM Peak Hour – Northbound** | | | | | |
| **Existing - No Build Scenario** | 5.1 | 1,031 | 2,805 | 1,535 | 3,260 |
| **With Project** | 3.5 | 315 | 1,710 | 94 | 679 |
| **PM Peak Hour – Southbound** | | | | | |
| **Existing - No Build Scenario** | 8.4 | 2,929 | 7,685 | 2,478 | 3,206 |
| **With Project** | 3.3 | 81 | 826 | 152 | 1,733 |

**Notes:**
[1] This table shows the travel times and vehicle queues under existing conditions. This table also illustrates how the project would affect travel times and queuing in the project vicinity; it provides a direct comparison to existing conditions and excludes any changes due to planned growth and/or any planned transit or roadway improvement projects in the area.

[2]Travel times measured from just north of Crespi Drive to just north of Reina Del Mar Avenue (for AM Northbound, a distance of 1.6 miles), and from about 1.8 miles north of Reina Del Mar Avenue to just south of Fassler Avenue (for PM Southbound, a distance of 2.5 miles).

[3] The individual queues on SR 1 for Fassler and Reina Del Mar should be summed to get the total queue. For example, in the AM peak hour, the northbound maximum Reina Del Mar queue is 2,805 feet. This represents the distance from Reina Del Mar to Fassler Avenue. The AM northbound maximum Fassler queue of 3,260, represents the queue from Fassler Avenue south. The total northbound queue is 2,805 + 3,260 feet, or 6,065 feet (1.15 miles). It is presented this way because in the "with project" scenarios, the two intersections operate more independently and the queues are indeed separate as opposed to the single long queue seen in the "no build" scenarios.

Considering the entire network, the average delay per vehicle that travels through the network can be determined, regardless of whether the vehicle travels through one or both of the study intersections. The average delay per vehicle for the AM and PM peak hours are:

- 127 average seconds of delay per vehicle in the AM peak hour.
- 128 average seconds of delay per vehicle in the PM peak hour.

### 2.6.2.5 *Future "No Build" Traffic Conditions*

Without improvements, operation of this segment of highway is expected to deteriorate by 2035 due to the normal, anticipated background increase in traffic, as described. The peak period timeframe would also lengthen in duration during both the AM and PM periods. Future conditions traffic forecasts were used to analyze operating conditions along the study corridor without the proposed project at year 2015 and year 2035. The LOS results and travel times for these future conditions are shown in Tables 2.6 and 2.7and discussed below.

**TABLE 2.6**
**FUTURE INTERSECTION LEVEL OF SERVICE SUMMARY**

| Intersection | Conditions | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|
| | | Delay | LOS | Peak Hour Demand Service | Delay | LOS | Peak Hour Demand Served |
| SR 1 and Reina Del Mar Avenue (Signalized) | **Year 2015: No Build Conditions** | 68 | E | 91% | 202 | F | 86% |
| | **Year 2015: Project Conditions** | 51 | D | 100% | 34 | C | 100% |
| | **Year 2035: No Build Conditions** | 70 | E | 77% | 251 | F | 77% |
| | **Year 2035: Project Conditions** | 69 | E | 93% | 53 | D | 93% |
| SR 1 and Fassler Avenue (Signalized) | **Year 2015: No Build Conditions** | 345 | F | 91% | 124 | F | 85% |
| | **Year 2015: Project Conditions** | 60 | E | 100% | 54 | D | 100% |
| | **Year 2035: No Build Conditions** | 389 | F | 75% | 112 | F | 78% |
| | **Year 2035: Project Conditions** | 90 | F | 93% | 73 | E | 93% |

**TABLE 2.7**
**FUTURE SR 1 TRAVEL TIMES AND QUEUES**

| Conditions | Travel Time (Minutes) [1] | Average Reina Del Mar Avenue Queue (feet) | Maximum Reina Del Mar Avenue Queue (feet) | Average Fassler Avenue Queue (feet) | Maximum Fassler Avenue Queue (feet) |
|---|---|---|---|---|---|
| **AM Peak Hour – Northbound** | | | | | |
| **Year 2015: No Build Conditions** | 5.9 | 1,074 | 2,804 | 4,361 | 5,305 |
| **Year 2015: Project Conditions** | 3.8 | 446 | 2,312 | 142 | 876 |
| **Year 2035: No Build Conditions** | 12.6[2] | 1,095 | 2,804 | 4,946 | 9,213[2] |
| **Year 2035: Project Conditions** | 4.5 | 858 | 2,940 | 293 | 1,141 |
| **PM Peak Hour – Southbound** | | | | | |
| **Year 2015: No Build Conditions** | 9.5 | 4,893 | 9,549 | 2,627 | 3,207 |
| **Year 2015: Project Conditions** | 3.4 | 109 | 951 | 448 | 2,400 |
| **Year 2035: No Build Conditions** | 15.4[2] | 6,907 | 11,575[2] | 2,567 | 3,210 |
| **Year 2035: Project Conditions** | 4.2 | 334 | 2,600 | 736 | 2,693 |

**Notes:**
[1]Travel times measured from just north of Crespi Drive to just north of Reina Del Mar Avenue (for AM Northbound, a distance of 1.6 miles), and from about 1.8 miles north of Reina Del Mar Avenue to just south of Fassler Avenue (for PM Southbound, a distance of 2.5 miles).

[2]Queue extends beyond model limits. Length increased to estimate full queue length by adding 25 feet per unserved vehicle. Travel time increased by assuming nine mph average speed in queue.

### Future "No Build" Traffic Conditions, Year 2015

Under this scenario, no changes would be made to the roadway network. As traffic is forecasted to increase due to anticipated regional growth and new development, congestion and delay is forecasted to increase as well.

AM Peak Period: Congestion during the AM period would deteriorate compared to existing conditions. Operations would remain similar for the SR 1/Reina Del Mar Avenue intersection, with an increase in delay from 66 to 68 seconds per vehicle. Delays at the Fassler Avenue/Rockaway Beach Avenue intersection would increase from 195 to 345 seconds per vehicle. Maximum queue lengths on the northbound approach to Fassler Avenue/Rockaway Beach Avenue would increase

from 3,260 to 5,305 feet. Northbound travel times would increase approximately 20 percent, from 5.1 to 5.9 minutes.

PM Peak Period: Increased demand would cause delay at the SR 1/Reina Del Mar Avenue intersection to increase during the PM peak period, from 138 to 202 seconds. This delay would cause southbound queues to grow from 7,685 to 9,549 feet. Because the SR 1/Reina Del Mar Avenue intersection meters traffic to the Fassler Avenue/Rockaway Beach Avenue intersection, the delay at Fassler Avenue/Rockaway Beach Avenue would only increase from 117 to 124 seconds. Travel times would increase from 8.4 to 9.5 minutes, or by 13 percent.

**Future "No Build" Traffic Conditions, Year 2035**

AM Peak Period: Under this scenario, no changes would be made to the roadway network except for the installation of a right-turn pocket for eastbound Reina Del Mar Avenue, associated with potential development in the area. Traffic volumes would increase due to background growth and development.

Compared to existing conditions, operations would severely degrade during the AM peak hour. While average delay at the SR 1/Reina Del Mar Avenue intersection would only increase from 66 to 70 seconds (due to the metering effect of the upstream Fassler Avenue/Rockaway Beach Avenue intersection), delays at the Fassler Avenue/Rockaway Beach Avenue intersection would increase from 195 to 389 seconds. This would cause the northbound queue on SR 1 at Fassler Avenue/Rockaway Beach Avenue to grow from 3,260 to 9,213 feet. Northbound travel time would increase almost 150 percent, from 5.1 to 12.6 minutes.

PM Peak Period: During the PM peak hour, delay at the SR 1/Reina Del Mar Avenue intersection is expected to almost double, from 138 seconds to 251 seconds per vehicle. Queue lengths at the southbound approach at Reina Del Mar Avenue would increase from 7,685 to 11,575 feet, and southbound travel times would grow from 8.4 to 15.4 minutes, an increase of approximately 83 percent.

### 2.6.3 Environmental Consequences

This section describes the effects of the project on traffic, transit and pedestrian/bicycle facilities. The effects of the project are presented for the following scenarios:

- *Comparison to Existing Conditions*: This comparison answers the question "how would the project change the existing transportation and traffic environment"? It is a direct comparison to the current environment that uses existing facilities, volumes, and traffic patterns. No planned improvements and/or changes in traffic volumes due to planned growth are accounted for in this scenario.

- *Comparison to Future No Build Conditions – Year 2015*: This comparison shows the effects of the project as compared to anticipated future conditions (conditions that represent changes that will occur with or without the proposed project) at the anticipated year of project completion (2015).

- *Comparison to Future No Build Conditions – Year 2035*: Similar to the Year 2015 scenario, this comparison also shows the effects of the project as compared to anticipated future

conditions. This comparison is intended to disclose the complete or "cumulative" picture of the future transportation environment, taking into account traffic from future development planned for in the approved general plans of the cities in San Mateo County. This comparison also accounts for planned growth in the region as well as planned improvements to the transportation network.

The effects of implementing the proposed project as compared to existing conditions, as well as for the years 2015 and 2035, are illustrated in the prior tables and are described below.

#### 2.6.3.1 *Project Traffic Improvements*

Under the proposed project, SR 1 between just south of Fassler Avenue/Rockaway Beach Avenue and just north of Reina Del Mar Avenue would be widened from two to three lanes in each direction. This would provide increased throughput capacity through the two study intersections. The project is designed to alleviate a localized bottleneck only within the project reach. Because the project would not change the number or configuration of lanes on SR 1 to the north or south of the project area, the project Build Alternatives are not anticipated to significantly change regional trip distribution or volumes on SR 1 segments north and south of the project area.

In the northbound direction, a third lane would be added to SR 1, beginning 1,250 feet south of the intersection with Fassler Avenue/Rockaway Beach Avenue. This third lane would extend north through the intersection with Reina Del Mar Avenue. The lane would end 1,600 feet north of the intersection with Reina Del Mar Avenue, at which point the roadway would begin to transition back to the existing two-lane configuration.

In the southbound direction, a third lane would be added to SR 1, beginning 1,250 feet north of Reina Del Mar Avenue. This third lane would carry through the intersection with Reina Del Mar Avenue. Three southbound lanes would be provided between Reina Del Mar Avenue and Fassler Avenue/Rockaway Beach Avenue. One of these lanes would become one of the two southbound left-turn lanes from SR 1 to Fassler Avenue, leaving only two southbound through lanes south of Fassler Avenue.

#### *2.6.3.2 Comparison to Existing Conditions*

**Intersection Level of Service Operations**

AM Peak Period: In the AM peak period, either of the proposed Build Alternatives would substantially improve traffic as compared to the No Build alternative. Both study intersections would experience a LOS improvement of at least one letter grade, and would operate within the LOS D threshold maintained by the City. One hundred percent of traffic would be served, compared to 93 percent served under the No Build Alternative. In addition, maximum vehicle queues at Fassler Avenue/SR 1 would decrease by approximately 80 percent compared to the No Build alternative. Overall travel time would improve by 31 percent, or 1.6 minutes. The overall average network-wide delay would be 42 seconds of delay per vehicle in the AM peak hour, approximately one-third of the 127 seconds of delay under the No Build conditions.

PM Peak Period: In the PM peak period, under either Build Alternative, the southbound queues at the Reina Del Mar Avenue/SR 1 intersection would clear within each signal cycle, meaning that 100 percent of traffic would be served, compared to approximately 90 percent under No Build conditions.

Travel times through the corridor would be reduced by 61 percent, or 5.1 minutes. The vehicle delay at the Reina Del Mar Avenue/SR 1 intersection would be reduced by 77 percent, an improvement from LOS F to LOS C. The vehicle delay at the Fassler Avenue/SR 1 intersection would be reduced by 68 percent, an improvement from LOS F to LOS D. The overall average network-wide delay would be 35 seconds of delay per vehicle in the PM peak hour, compared to 128 seconds under the No Build conditions, a reduction of 73 percent.

**Freeway Segments**

With respect to other freeway segments and ramps, the proposed Build Alternatives would not directly generate additional traffic trips or change the overall distribution of trips in the site area. For these reasons, the project would not significantly affect the operations of other freeway segments beyond the immediate project site area.

**Local Streets**

Because the proposed Build Alternatives would not directly generate additional traffic trips or change the overall distribution of trips in the site area, the project would not significantly affect the operations of local streets in the area. As described above, the project would improve operations at the Fassler Avenue/SR 1 and the Reina Del Mar/SR 1 intersections, which would improve operations of Fassler Avenue and Reina Del Mar Avenue.

**Pedestrian and Bicycle Facilities**

Because the intersections at both Fassler Avenue/Rockaway Beach Avenue and Reina Del Mar Avenue would be widened, a pedestrian would require extra time to cross the street, which the traffic analysis identifies as a minimum increase of eight seconds at each intersection. Pedestrian sidewalks would be improved throughout the project area.

The existing Class I two-way bicycle/pedestrian path adjacent to the westerly edge of the highway north of Reina Del Mar Avenue would be upgraded by widening it from eight (8) feet to 10 feet, by increasing the separation between edge of path and edge of traveled way from nine (9) feet to 16 feet, and by installing a fence to provide a physical separation between the bicycle path and the highway. These upgrades will improve the safety for path users and will improve the overall path conditions in the area. The improvements to the existing Class I two-way bicycle/pedestrian path will not change the class of the path or extend beyond Reina Del Mar Avenue. After project construction, the path will be fully restored at its existing location. The associated improvements will constitute a "net benefit" within the meaning of Section 4(f) (refer to Appendix G.17).

The existing two-way bicycle/pedestrian path west of the existing highway south of Rockaway Beach Avenue would not be altered or affected by either proposed Build Alternative for the roadway widening project.

While the roadway widening under either of the two Build Alternatives would increase the time needed for pedestrian crossing of SR 1, the improved pedestrian and bicycle facilities would represent a beneficial effect on multi-modal access through the project area and to the coastal areas.

### *2.6.3.3 Comparison to Future No Build Conditions*

**Intersection Level of Service Operations -- Year 2015 Conditions**

AM Peak Period: In the AM peak period, implementation of either proposed Build Alternative would substantially improve service compared to the "No Build" scenario. Both study intersections would experience a LOS improvement of one letter grade, and maximum vehicle queues would decrease by approximately 75 percent. Travel time would improve by approximately two minutes, and overall delay would also substantially improve. Despite this improvement, the intersection of SR 1/Fassler Avenue/Rockaway Beach Avenue would operate at LOS E. The overall average network-wide delay would be 55 seconds of delay per vehicle in the AM peak hour, compared to 201 seconds under "No Build" conditions, a decrease of 73 percent.

PM Peak Period: In the PM peak period, implementation of either proposed Build Alternative would result in even greater improvements in service than in the AM peak period. The southbound left-turn movement at Fassler Avenue would continue to experience congestion, but queues from this intersection would not extend back to the intersection with Reina Del Mar Avenue. Because there would be three southbound lanes instead of two between Reina Del Mar Avenue and Fassler Avenue, and one of the lanes would become one of the two left-turn lanes, queues would not extend back from the Fassler Avenue intersection to disrupt through traffic.

Based on the traffic model, southbound queues at the intersection of SR 1/Reina Del Mar Avenue would dissipate within each signal cycle, and virtually all congestion on SR 1 north of Reina Del Mar Avenue would be eliminated with either proposed Build Alternative. This would be reflected at the SR 1/Reina Del Mar Avenue intersection, which would improve from LOS F under "No Build" conditions to LOS C. Travel times would be reduced by 63 percent, while overall vehicle delay would be reduced by 81 percent. Both study intersections would operate at acceptable LOS D or better. The average network-wide delay per vehicle would be 44 seconds in the PM peak hour compared to 163 seconds without the project, a decrease of 73 percent.

**Intersection Level of Service Operations -- Year 2035 Conditions**

AM Peak Period: Implementation of either proposed Build Alternative would substantially improve service during the AM peak period compared to the "No Build" alternative, but some congestion would still remain. Both study intersections would operate below the LOS D threshold adopted by the City of Pacifica, but would operate substantially better than if no improvements were made, and would improve AM peak hour travel times by over 40 percent. In general, implementation of either proposed Build Alternative would provide substantial improvements to traffic operations, but by year 2035, traffic conditions may be similar to today's conditions due to regional traffic growth. The overall average network-wide delay per vehicle would be 78 seconds in the AM peak hour compared to 224 seconds under "No Build" conditions, a decrease of 65 percent.

PM Peak Period: Implementation of the proposed project would also improve service during the PM peak period. The southbound left-turn movement at Fassler Avenue would experience congestion, but queues will not spill back to the intersection with Reina Del Mar Avenue. Queues for the southbound left-turn movement from SR 1 at Fassler Avenue would not interfere with through traffic.

Travel times in the PM peak hour would be substantially improved in year 2035 under project conditions, even compared to existing conditions. The overall average network-wide delay per vehicle would be 62 seconds in the PM peak hour compared to 181 seconds under "No Build" conditions, a decrease of 66 percent.

While the southbound left-turn pocket at Reina Del Mar Avenue is not expected to see an increase in demand over existing volumes, an analysis was performed to determine if the existing 500-foot turn pocket would be adequate in the future. This analysis showed that the southbound left-turn queue would have a 95th percentile queue length of 677 feet. Thus, the left-turn pocket should be extended to 675 feet.

### Freeway Segments

Similar to the comparison to existing conditions described above, with respect to other freeway segments and ramps, the proposed Build Alternatives would not directly generate additional traffic trips or change the overall distribution of trips in the site area under future conditions. Therefore, the project would not significantly affect the operations of other freeway segments beyond the immediate project site area.

### Local Streets

Because the proposed Build Alternatives would not directly generate additional traffic trips or change the overall distribution of trips in the site area, the project would not significantly affect the operations of local streets in the area under future conditions. As described above, the project would improve operations at the Fassler Avenue/SR 1 and the Reina Del Mar/SR 1 intersections, which would improve operations of Fassler Avenue and Reina Del Mar Avenue.

### Pedestrian and Bicycle Facilities

Because the intersections at both Fassler Avenue/Rockaway Beach Avenue and Reina Del Mar Avenue would be widened, a pedestrian would require extra time to cross the street, which the traffic analysis identifies as a minimum increase of eight seconds at each intersection. Pedestrian sidewalks would be improved throughout the project area.

The existing Class I two-way bicycle/pedestrian path adjacent to the westerly edge of the highway north of Reina Del Mar Avenue would be upgraded as described above in Section 2.6.3.2. The existing two-way bicycle/pedestrian path west of the existing highway south of Rockaway Beach Avenue would not be altered or affected by either proposed Build Alternative for the roadway widening project.

While the roadway widening under either of the two Build Alternatives would increase the time needed for pedestrian crossing of SR 1, the improved pedestrian and bicycle facilities would represent a beneficial effect on multi-modal access through the project area and to the coastal areas.

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

Construction activities would occur in stages in order to minimize disturbance and to maintain circulation and access through the project area. Prior to construction, a Transportation Management Plan (TMP) will be prepared, as further described below in Section 2.22.

No additional mitigation or avoidance measures are required or proposed by the project.

## 2.7 VISUAL/AESTHETICS

The following discussion of visual and aesthetics is based upon a *Visual Impact Assessment (VIA)* completed for the project in January 2011, as well as Addendum to this report completed in August 2012.[26] The study is incorporated into this EIR/EA by reference. A copy of this study is available for review at the locations listed inside the front cover of this document.

### 2.7.1 Regulatory Setting

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

Likewise, CEQA establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of aesthetic, natural, scenic and historic environmental qualities." (CA Public Resources Code Section 21001[b]).

### 2.7.2 Affected Environment

#### *2.7.2.1 Methodology*

The process used in this visual impact study generally follows the guidelines outlined in the publication "Visual Impact Assessment for Highway Projects" Federal Highway Administration (FHWA), March 1988.

The visual impacts of the two project Build Alternatives are determined by describing the existing visual conditions at the site, assessing the visual resource change due to the project, and predicting viewer response to that change. Visual resource change is the sum of the change in visual character and the change in visual quality. The first step in determining visual resource change is to assess the compatibility of the proposed project with the visual character of the existing landscape. The second step is to compare the visual quality of the existing resources with projected visual quality after the project is constructed.

The viewer response to project changes is the sum of viewer exposure and viewer sensitivity to the project. The resulting level of visual impact is determined by combining the severity of resource change with the degree to which people are likely to oppose the change.

[26] An Addendum to this report was completed based upon public comments pertaining to viewpoints along the project alignment, which we addressed in the responses to comments and updates to the text of the EIR/EA.

The quality of the existing visual environment was determined using a combination of three criteria:

- ***Vividness***: "...the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns..."
- ***Intactness***: "...the visual integrity of the natural and man-built landscape and its freedom from encroaching elements..."
- ***Unity***: "...the visual coherence and compositional harmony of the landscape concerned as a whole..."

#### *2.7.2.2 Existing Visual Environment*

The visual setting of the project segment of SR 1 is a mix of both urban and natural features. There are properties along this stretch of SR 1 which consist of undeveloped grasslands and mature trees, mixed with urban areas of residential and commercial uses, particularly near the SR 1/Reina Del Mar Avenue and the SR 1/Fassler Avenue/Rockaway Beach Avenue intersections. The terrain is hilly and the natural gradient in the area generally slopes downward to the west. The properties east of SR 1 are sloped above the roadway, while the properties on the west generally slope downward, toward the coastal bluffs. Near the SR 1/Fassler Avenue/Rockaway Beach Avenue intersection, the Pacific Ocean is located approximately 700 feet west of the project alignment. Most of the natural landscape has been altered over time within and adjacent to the project limits with the addition of buildings and highway structures.

Portions of SR 1 throughout the state are officially designated by Caltrans as a scenic highway; the proposed project segment, however, is categorized as eligible for the "state scenic highway" designation, but is not currently designated as such.[27] The SR 1 roadway itself is dominated by hardscape; the facility includes four travel lanes, a concrete barrier median, and paved shoulders. There are mature trees along portions of the roadway, however, including near the former Pacifica quarry and at the Calera Creek undercrossing. Photos 1-9 show various views of the project area.

There is an existing embankment along the western edge of the SR 1 roadway, near the Reina Del Mar Avenue intersection. This embankment is approximately 30 feet high and extends from approximately 1,000 feet north of the SR 1/Reina Del Mar Avenue intersection to approximately 700 feet south of the intersection (refer to Figure 1.4 and see Photo 8). The existing embankment currently blocks views to the Pacific Ocean and the west from the SR 1 roadway area and the land uses near the Reina Del Mar intersection.

[27] http://www.dot.ca.gov/hq/LandArch/scenic_highways/, May 18, 2009.

Photo 1 - Project Viewshed.

Photo 2 - View looking southbound on SR 1 past the Fassler Avenue/Rockaway Beach Avenue intersection.

PHOTOS 1 AND 2

Photo 3 - View looking northbound on SR 1 towards the Fassler Avenue/Rockaway Beach Avenue intersection.


Photo 4 - Entrance to Rockaway Beach area.

PHOTOS 3 AND 4

Photo 5 - View of the Fassler Avenue/Rockaway Beach Avenue intersection looking northbound.

Photo 6 - View looking northbound on SR 1 past the Fassler Avenue/Rockaway Beach Avenue intersection.

Photo 7 - View looking southbound on SR 1, between the Reina Del Mar/SR 1 intersection and the Fassler Avenue/Rockaway Beach Avenue intersection.

Photo 8 - View looking southbound on SR 1, towards the Reina Del Mar/SR 1 intersection.

PHOTOS 7 AND 8

Photo 9 - View looking northbound on SR 1 past the Reina Del Mar/SR 1 intersection.

Various commercial uses and businesses are located west of SR 1 at the Fassler Avenue/Rockaway Beach Avenue intersection. Residential uses, a gasoline station, and a church front onto the east side of SR 1, just north of this intersection, and additional residential uses are located further east on Fassler Avenue.

Various commercial buildings, including restaurants, business offices, a mechanic shop, and a grocery/liquor store, are located to the east of the SR 1/Reina Del Mar Avenue intersection. Residential uses are located further east on Reina Del Mar Avenue.

Existing vegetation within SR 1 and the adjacent neighborhoods consist of introduced species of landscape trees and shrubs, as well as ruderal grassland, ruderal riparian species, wetlands, and groundcovers. The landscaping is mature. Trees and shrubs are dense at the western edge of the SR 1 roadway to the north of San Marlo Way and the Old Pacifica Quarry Access Road. Monterey Cypress (*Cupressus macrocarpa*), Monterey Pine (*Pinus radiata*), and Lollipop trees (*Myoporum laetum*)[28] are located near the wetlands at the western edge of the roadway. Please see Section *2.21 Invasive Species* for a listing of the invasive plant species observed in the project area. Trees and shrubs are less dense at the north end of the project and on the eastern side of the roadway (refer to Photos 1-9).

## 2.7.3 Environmental Consequences

### *2.7.3.1 Change in Visual Character*

**Views Along State Route 1 Alignment**

Under the Narrow Median Build Alternative, the existing median will be widened from six feet to 22 feet wide and will include a new three-foot high concrete barrier and ten foot inside shoulders. Under the Landscaped Median Build Alternative, the existing median will be widened to 40 feet consisting of a 16-foot wide landscaped median, with two two-foot wide concrete barriers (three feet high) and ten-foot inside shoulders. The landscaped area may be raised above the height of the roadway between the barriers (refer to Figure 1.6).

Retaining walls would be constructed to contain portions of the roadway widening within the existing right-of-way (R/W) or to prevent encroachment into environmentally sensitive areas (refer to Figures 1.4 and 1.5). A permanent exclusion barrier would also be constructed on the west side of SR 1 between Calera Creek and San Marlo Way (with the exception of the driveway access to the former quarry property and the western leg of the Reina Del Mar Avenue intersection) so that the roadway is not accessible to special-status species (refer to Section *2.20 Threatened and Endangered Species*).

[28] Myoporum laetum (myoporum) is an evergreen shrub or small tree (family Myoporaceae) found along the coast of California and in the San Francisco Bay region

The improvements proposed by the project Build Alternatives would alter the visual character of portions of the project alignment due to the removal of buildings and retaining walls, trees, and screening shrubs at the edges of the roadway, as well as the removal of portions of the existing vegetated soil embankment on the west side of SR 1. By adding two additional travel lanes on SR 1, either of the Build Alternatives would increase the amount of hardscape along this portion of SR 1. Visual changes would also occur where existing mature vegetation along the roadway, which contributes to positive visual experiences from vantage points adjacent to the highway, is removed. Such changes would be permanent where insufficient area exists for replacement planting with trees and shrubs possessing the same characteristics as the existing vegetation. The removal of trees, screening vegetation, and buildings/retaining walls, as well as the excavation into the embankment west of SR 1, would change the motorist's views and diminish the quality of the visual experience. The Landscaped Median Build Alternative would result in the removal of one additional mature tree along the east side of SR 1, near station 47+50.

The project proposes retaining walls and with vehicle barriers at several locations along the west and east sides of SR 1, including along the west side of SR 1 south of Fassler Avenue and north of San Marlo Way, as well as on the east side of SR 1 along Harvey Way and the properties to the north. In addition, the project also proposes a cut into the existing embankment and construction of a new retaining wall for approximately 170 feet along the embankment northwest of the Reina Del Mar Avenue intersection. The introduction of new retaining walls and vehicle barriers as new manufactured visual elements will contrast with the natural features and will change the appearance of these areas. However, because the height of these retaining walls and barriers would not exceed the height of the remaining embankments, the wall would not block views. Distant views and views of the coast would be preserved.

While the project would change the appearance at certain locations along the project alignment, the proposed widening under either the Narrow Median or Landscaped Median Build Alternatives will not change the overall intactness or unity of the viewshed and would not substantially affect views or the aesthetics of the project corridor. The changes proposed to the median by either Build Alternative will remain consistent with the existing visual quality of the viewshed.

See photos 10 through 25, which illustrate the views before and after implementation of the project at several vantage points along the project alignment. Because it is not feasible to analyze all the views in which the proposed project would be seen, it is necessary to select a number of key viewpoints that would most clearly display the visual effects of the project. Key views also represent the primary viewer groups that would potentially be affected by the project. While the *Visual Impact Assessment* evaluated all Key Views, the EIR/EA text focuses on the key views with substantive changes. It should be noted that with the removal of the existing mature trees along the western edge of the alignment south of Reina Del Mar Avenue, the project would actually improve views of the Pacific Ocean from the immediate area east of the SR 1 alignment (refer to Photo 21 and Photo 22).

The project will not substantially affect motorists' views of prominent hills and ridgelines that are visible from vantage points along SR 1. Therefore, the project's impacts would not be of sufficient magnitude to preclude SR 1 being designated as a State Scenic Highway in the future.

Key View # 1 (Photo 10) - View of existing SR 1 character looking northbound from the southern end of the project alignment toward the Fassler Avenue/Rockaway Beach Avenue intersection.

Key View # 1 (Photo 11) - Proposed Project features from the southern end of the project alignment looking northbound toward the Fassler Avenue/Rockaway Beach Avenue intersection.

KEY VIEW #1 - PHOTOS 10 AND 11

Key View # 2 (Photo 12) - View of existing SR 1 Character looking southbound on SR 1 from the Fassler Avenue/Rockaway Beach Avenue intersection.

Key View # 2 (Photo 13) - Proposed Project features looking southbound on SR 1 from the Fassler Avenue/Rockaway Beach Avenue intersection.

KEY VIEW #2 - PHOTOS 12 AND 13

Key View # 4 (Photo 15) - View of SR 1 as seen looking east from the residences and businesses along Old County Road.

Key View # 4 (Photo 16) - Proposed Project features along SR 1 as seen looking east from the residences and businesses along Old County Road.

KEY VIEW # 4 - PHOTOS 15 AND 16

Key View # 5 (Photo 17) - View of existing SR 1 character looking northbound past the Fassler Avenue/Rockaway Beach Avenue intersection.

Key View # 5 (Photo 18) - Proposed Project features, including the Narrow Median, looking northbound past the Fassler Avenue/Rockaway Beach Avenue intersection.

Key View # 5 (Photo 19) - Proposed Project features, including the Landscaped Median, looking northbound past the Fassler Avenue/Rockaway Beach Avenue intersection.

KEY VIEW # 5 - PHOTOS 17, 18 AND 19

Key View # 6 (Photo 20) - View of existing SR 1 character looking southwest across SR 1, towards the Rockaway Beach area and the Pacific Ocean.

Key View # 6 (Photo 21) - Proposed Project features, including the Narrow Median, looking southwest across SR 1, towards the Rockaway Beach area and the Pacific Ocean.

Key View # 6 (Photo 22) - Proposed Project features, including the Landscaped Median, looking southwest across SR 1, towards the Rockaway Beach area and the Pacific Ocean.

KEY VIEW # 6 - PHOTOS 20, 21 AND 22

Key View # 8 (Photo 24) - View of existing SR 1 character looking southbound on SR 1, towards the Reina Del Mar/SR 1 intersection.

Key View # 8 (Photo 25) - Proposed Project features looking southbound on SR 1, towards the Reina Del Mar/SR 1 intersection.

KEY VIEW # 8 - PHOTOS 24 AND 25

Lighting on the new roadway and intersection areas will be visible from adjacent locations. Lighting for overhead directional signs will also be visible. This impact will, however, not be substantial as the current designs for these types of lighting fixtures focus light on their intended target and minimize spillover into adjacent areas. Construction of the proposed improvements could require the use of nighttime lighting, which would temporarily increase light and glare in the site vicinity.

During construction, residents, and motorists will experience visual impacts associated with the following: 1) removal of paving, power poles and lines, and street lights; 2) removal of existing vegetation; 3) construction of median barriers and retaining walls; 4) grading to form new contours; 5) presence of large pieces of equipment used for moving earth, trenching ditches, lifting steel beams and columns, hauling cement, laying and compacting pavement, water trucks spraying water to control dust, and assorted pickup trucks and autos; and 6) construction signs and lights.

**Other Area Views**

In addition to the key views along the project alignment, there are two public parks areas located adjacent to SR 1 near the project limits. These two areas are part of the Golden Gate National Recreation Area (GGNRA) properties and include: 1) Mori Point, which is located west of SR 1, north of the City of Pacifica's water treatment plant; and 2) Sweeney Ridge, which is located on the east side of SR 1, at the north end of the project alignment. These views are representative of those seen by the recreational park user hiking on Mori Point (refer to Photo 26 and Photo 27) or Sweeney Ridge (refer to Photo 28) adjacent to SR 1 at the north end of the project alignment. Views of the valley, natural hillsides and distant foothills are seen from Mori Point. Views of the ocean, valley, and Rockaway Headlands are seen from Sweeney Ridge.

See photos 26 through 33, which illustrate the views before and after implementation of the project at vantage points from Mori Point and Sweeney Ridge. The cut into the embankment and the introduction of the retaining wall as a new manufactured visual element on the west side of SR 1 would contrast with the natural features and lower the unity and intactness of the viewshed. However, because the height of this wall would not exceed the height of the remaining embankment, the wall would not block views. The project will not substantially affect recreational park user's views of the coast and prominent hills that are visible from Mori Point and Sweeney Ridge.

Other Area Views (Photo 26) - View from Mori Point GGNRA trail northwest of the site, looking southeast toward the project alignment. The southern portion of the project segment of SR 1 can be seen behind the buildings on the right side of the photo.

Other Area Views (Photo 27) - Proposed project features, including the Narrow Median, looking southeast toward the project alignment from the Mori Point GGNRA trail northwest of the site. The southern portion of the project segment of SR 1 can be seen behind the buildings on the right side of the photo.

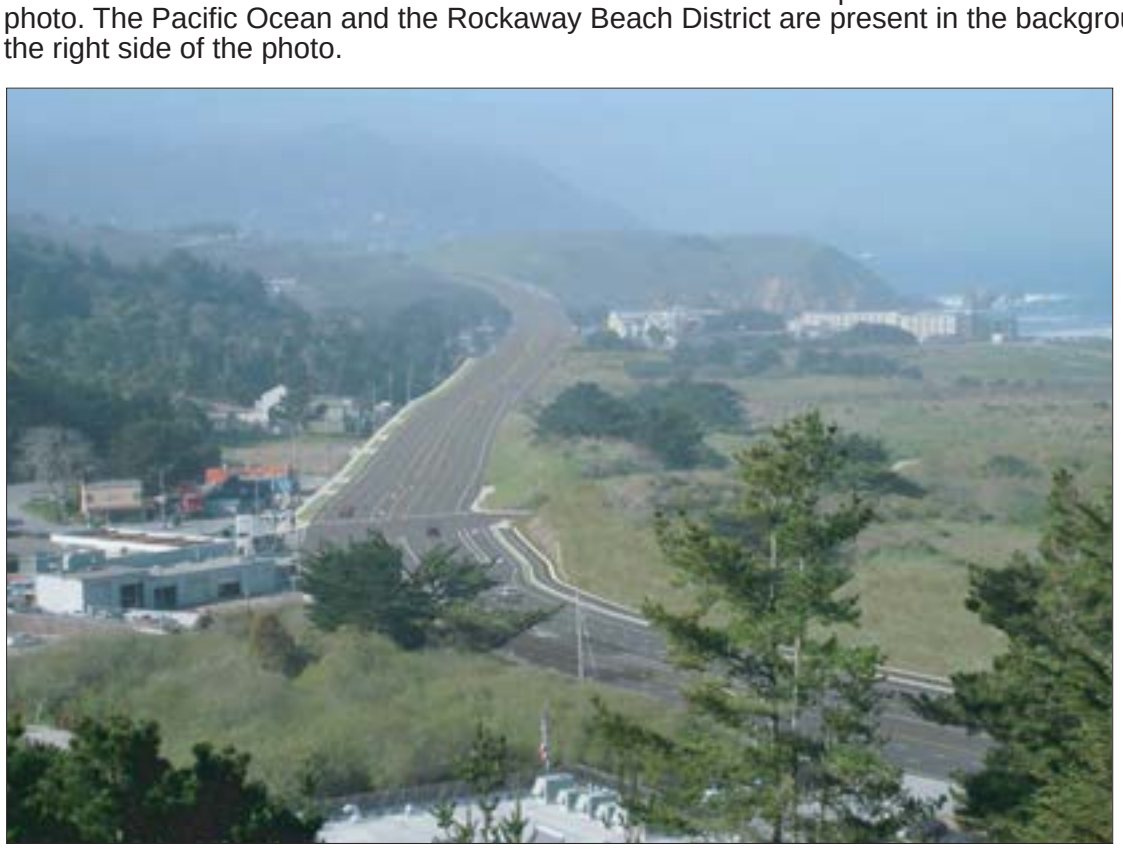
Other Area Views (Photo 28) - Proposed project features, including the Landscaped Median, looking southeast toward the project alignment from the Mori Point GGNRA trail northwest of the site. The southern portion of the project segment of SR 1 can be seen behind the buildings on the right side of the photo.

## OTHER AREA VIEWS - PHOTOS 26, 27 AND 28

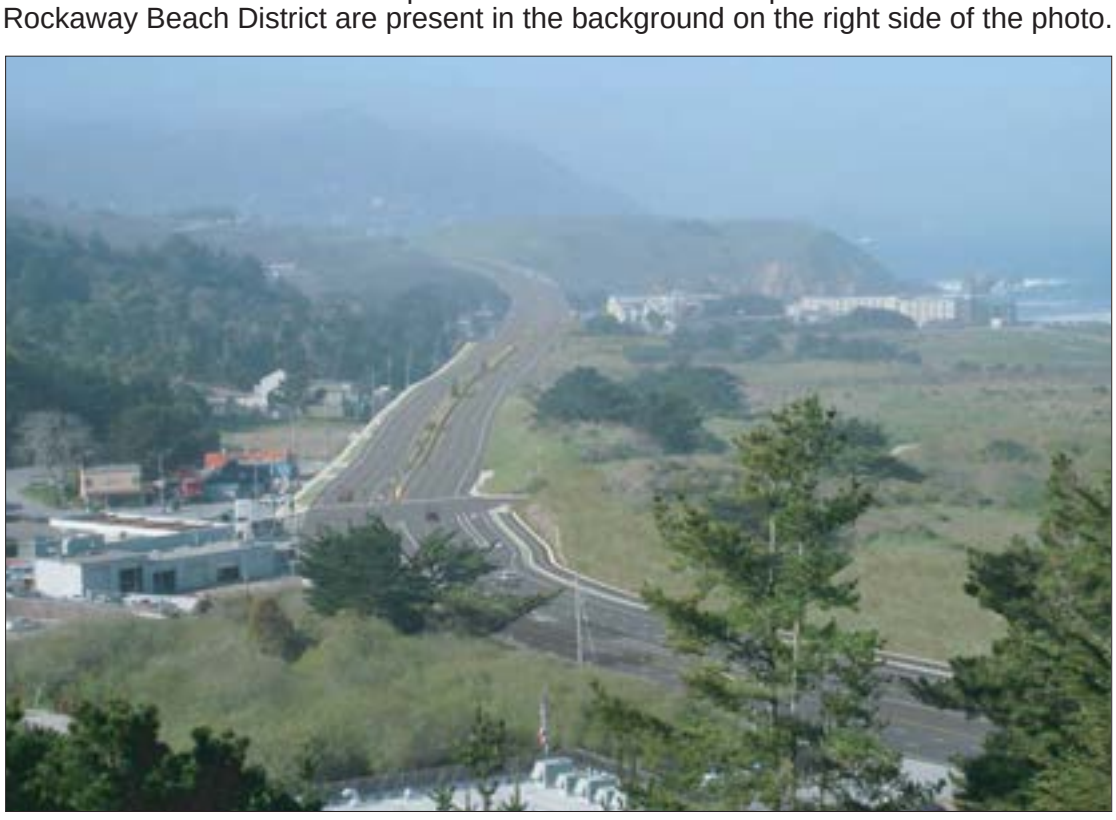
Other Area Views (Photo 29). View from Mori Point GGNRA trail northwest of the site, looking northeast toward the project alignment. The northern portion of the project segment at the intersection of Reina Del Mar Avenue/SR 1 can be seen in front of the buildings in the middle of the photo.

Other Area Views (Photo 30). Proposed project features, including the Narrow Median, looking northeast toward the project alignment from Mori Point GGNRA trail northwest of the site. The northern portion of the project segment at the intersection of Reina Del Mar Avenue/SR 1 can be seen in front of the buildings in the middle of the photo.

Other Area Views (Photo 31) - View from Sweeney Ridge GGNRA trail northeast of the site, looking southwest toward the project alignment and looking southbound on the project reach of SR 1. The land uses near the Reina Del Mar intersection are present in the middle of the photo. The Pacific Ocean and the Rockaway Beach District are present in the background on the right side of the photo.



Other Area Views (Photo 32) - Proposed project features, including the Narrow Median, looking southwest toward the project alignment and looking southbound on the project reach of SR 1 from the Sweeney Ridge GGNRA trail northeast of the site. The land uses near the Reina Del Mar intersection are present in the middle of the photo. The Pacific Ocean and the Rockaway Beach District are present in the background on the right side of the photo.



Other Area Views (Photo 33) - Proposed project features, including the Landscaped Median, looking southwest toward the project alignment and looking southbound on the project reach of SR 1 from the Sweeney Ridge GGNRA trail northeast of the site. The land uses near the Reina Del Mar intersection are present in the middle of the photo. The Pacific Ocean and the Rockaway Beach District are present in the background on the right side of the photo.

## OTHER AREA VIEWS - PHOTOS 31, 32 AND 33

#### *2.7.3.2 Summary of Project Environmental Consequences*

The existing visual quality along the project reach of SR 1 is moderate. The view quality is primarily due to the scattered trees and the topographic relief of the surrounding hillsides. Roadside views along this portion of SR 1 are generally confined to the fore- and mid-ground roadway environment.

Construction of the project would require the removal of buildings and retaining walls, trees, and excavation of portions of the hillside embankment west of SR 1. However, overall, as a result of this project, minor changes to visual resources will occur within the project limits. The visual effects of the project can be summarized by saying that the urban and natural character of the SR 1 project alignment would remain similar to the existing character. Generally, this change would not affect the roadway users or those who view the roadway and intersections from adjacent communities or parks.

Views of the coastal areas on the western side of the roadway could be enhanced with the removal of vegetation on the west side of SR 1 as part of the project. The new built forms would not displace the existing natural features. The landscape median would partially screen the commercial and residential development adjacent to the roadway for the traveler. The wider landscape median also provides an opportunity to vertically separate the two sides of SR 1 with the southbound being lower and northbound higher. This would provide opportunities to open up coastal views for northbound traffic.

The right-of-way boundaries increase along some portions of the project, however these areas would be constructed on new embankment or excavated into existing man-made embankments and would not proportionally displace existing natural features.

The cumulative visual and aesthetic impacts of the project are evaluated in Section *2.23 Cumulative Impacts* of this document.

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

Visual avoidance and minimization measures for project effects are summarized below and will consist of adhering to the following design requirements in cooperation with the District Landscape Architect. The requirements are arranged by project feature and include design options in order of effectiveness. All visual minimization measures will be designed and implemented with the concurrence of the District Landscape Architect.

Implementation of the following avoidance and minimization measure guidelines will reduce effects of the project. Many of the minimization measure guidelines are being proposed as part of project features to avoid adverse effects.

The visual design/corridor concept will be further developed by the project team during the final design phase in cooperation with the District 04 Landscape Architect and in consultation with City staff members, community planning groups, and the Department's Project Development Team. The visual design/corridor concept will incorporate the design guidelines contained in this study.

#### *2.7.4.1 Lighting*

Nighttime construction lighting shall be directed downward towards the construction area, away from sensitive land uses, such as nearby residences. Nighttime lighting will also be directed away from the GGNRA's land surrounding the project site during construction.

#### *2.7.4.2 Structure Aesthetics*

Aesthetic treatment will be considered for all structures associated with the proposed project, including retaining walls, soil nail walls, concrete barriers, median barriers, railings, and nose paving. Possible aesthetic treatment can include architectural features such as surface texture, pattern treatment, and color application. The aesthetic treatments on these structures will be designed to make the structure less visually obtrusive and blend in with the surrounding background. Such design can include a softer, more natural taper to the end treatment of the soil nail walls to blend the wall in with the existing topography. A color application can be applied to the wall that is similar to the existing hillside color, which will allow the wall to blend more into the existing hillside. The aesthetic treatments also will decrease the brightness and visual monotony of untreated retaining walls, prevent glare, and deter graffiti. The overall design objective of the project will be to maintain the consistency and visual continuity of the entire project corridor.

In areas where feasible, the project design may include down slope retaining walls rather than upslope walls. The design would also minimize overall height and length of retaining walls to the greatest extent feasible to reduce the visual level of effect.

#### *2.7.4.3 Median Planting*

Including landscaping in the median for the project will provide aesthetic benefit. Median planting provides aesthetics in rural areas where no other highway planting exists. Median plantings provide glare screening for headlights of oncoming traffic, add visual interest through planting of greenery and flowers, and minimize the visual monotony of the expansive width of the roadway. Views from community roads play an important role in the City, and communities recognize that the perception of each community is formed to a large degree by what people observe through their windshields. The landscaping in the median will help to retain the views of the area for travelers.

#### *2.7.4.4 Highway Planting*

Replacement planting shall be implemented per Chapter 29 (Highway Planting) of the Department's *Project Development Procedures Manual* and Chapter 900 (Landscape Architecture) of the Department's *Highway Design Manual*. The replacement plants will be complementary to the existing landscape and appropriate to existing conditions and level of maintenance to be provided. Native seed from a local source (within the same watershed if practicable) will be planted on all disturbed ground. Temporary High Visibility Plastic Fencing will be placed along the perimeter of all environmentally sensitive area (ESAs) during construction and additional vegetation that need not be disturbed by construction including the mature trees at the south east quadrant of the Fassler Avenue/SR 1 intersection, as well as all of the vegetated area west of the retaining walls on the western side of SR 1 between San Marlo Way and Reina Del Mar Avenue. Both areas will be designated on the project plans as outside of limits of work and/or ESAs.

Existing vegetation outside of clearing and grubbing limits will be protected from the contractor's operations, equipments and material storage. The project design and construction will minimize existing tree and shrub removal to the greatest extent possible. Any tree trimming/pruning to provide a clear work area will also me minimized to the greatest extent possible. All trees in the construction footprint will be field marked and removal will be approved by the District Engineer prior to removal.

#### *2.7.4.5 Drainage and Water Quality Features*

To minimize post-construction water quality effects, post-construction Best Management Practices (BMPs) are incorporated into the project (refer to Section *2.9 Hydrology and Floodplain* and *2.10 Water Quality and Storm Water Runoff*).

# 2.8 CULTURAL RESOURCES

## 2.8.1 Regulatory Setting

"Cultural resources" as used in this document refers to all historical and archaeological resources, regardless of significance. Laws and regulations dealing with cultural resources include:

- The National Historic Preservation Act of 1966, as amended, (NHPA) sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800). On January 1, 2004, a Section 106 Programmatic Agreement (PA) between the Advisory Council, FHWA, State Historic Preservation Officer (SHPO), and Caltrans went into effect for Caltrans projects, both state and local, with FHWA involvement. The PA implements the Advisory Council's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The FHWA's responsibilities under the PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Pilot Program (23 CFR 773) (July 1, 2007).

- Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the "use" of land from historic properties. See Section *2.1.2.4 Parks and Recreational Facilities* of this document for information regarding the applicability of Section 4(f) to the project.

- Historical resources are considered under CEQA, as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way.

## 2.8.2 Affected Environment

The information in this section is based primarily on a technical *Historic Property Survey Report*, *Archaeological Survey Report*, and *Historic Resources Evaluation Report* that were completed for the project in December 2009 as well as Addenda to these reports completed in October 2010. These studies are incorporated into this EIR/EA by reference.

A prehistoric and historic site record and literature search by the California Historical Resources Information System, Northwest Information Center at Sonoma State University was undertaken to determine if known resources are present within the project's area of potential effects (APE). The APE consists of the area within the footprint of the project, as well as those areas directly adjacent to the project where indirect effects could occur. There are two recorded archaeological sites (CA-SMa-162 and CA-SMa-238) within or adjacent to the APE.

#### *2.8.2.1 Archaeological Resources*

Based upon the results of the records search and literature review, a field reconnaissance survey of the APE and a supplemental presence/absence coring program was completed for this project. The purpose of the coring program was to determine whether cultural resources associated with CA-SMa-268 are present within the areas most likely to be affected by the proposed project. The subsurface testing, which was undertaken in December 2008, indicated that no cultural resources of significance are present in the construction area on the west side of SR 1. This includes the area between the existing ground surface and a depth of 12 feet below the surface.

The above described research, field reconnaissance, and coring program determined that CA-SMa-162 is identified as a redeposit of prehistoric archaeological materials from an area to the north that was used in the creation of the road embankment west of SR 1. CA-SMa-162 was previously determined as ineligible to the National Register of Historic Places (NRHP) with State Historic Preservation Officer (SHPO) concurrence as part of an undertaking in October 1986 (Code 6Y). The other prehistoric site, CA-SMa-268, was discovered during highway construction in the early 1960s and was noted as nearly destroyed at the time of its original inspection. Subsequent researchers using surface indicators have expanded the boundary, although the expansion could be due to mechanical dispersion of disturbed archaeological materials during subsequent construction. One presence/absence testing program increased the original site boundary to the west based on the presence of buried deposits. As mentioned above, the subsurface coring program completed for this project did not find any indications of buried archaeological resources along the western alignment of SR 1 that could be affected by the proposed highway widening and other improvements. A recent study indicates, however, that the site appears eligible for the California Register of Historical Resources (CRHR) and the City of Pacifica's local list. The available data indicate that the site is eligible for the NRHP under Criterion D – it may provide chronological data for central coastal California cultural sequences, subsistence information, settlement patterns, demography, technology, interactions and exchange, and burial practices. However, there is a very low potential for the exposure of prehistoric cultural materials associated with the two known prehistoric resources within the APE during the construction of the proposed improvements. Potential below grade disturbance in the improvement areas will be restricted to less than 36-inches within areas previously filled for the current roadbed or within the utility disturbance zone.

#### *2.8.2.2 Architectural/Historic Resources*

Seven buildings and building complexes are present within the APE in two groups located in different areas of Pacifica -- one group is in the community of Rockaway Beach and the other in Vallemar, about one mile apart.

The six buildings/building complexes in Rockaway Beach include seven pre-1962 buildings including one 1950s restaurant and six single family residences. These buildings are not eligible for the NRHP because they do not appear to be significant under Criteria A, B, or C. The buildings have also been evaluated in accordance with Section 15064.5(a) (2-3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and the buildings are not historical resources for the purposes of CEQA.

The Vallemar complex includes four buildings on one parcel. One building in the complex, Vallemar Station located at 2125 Cabrillo Highway, is listed on the Historic Sites Master List for San Mateo County, the Historic Sites list included in the City of Pacifica General Plan, and the Inventory

of County Historic Resources for San Mateo County. The building is eligible for the CRHR at a local level of significance under Criterion 1: association with events that have made a significant contribution to broad patterns of local or regional history. The period of significance is 1907-1920, which is the period when the Ocean Shore Railroad operated on the San Mateo County coast, and the area of eligibility is the building footprint. The three buildings near the railroad station, 156/158 Reina Del Mar Avenue, 164 Reina Del Mar Avenue, and 2130 Cabrillo Highway, are recent structures that are not eligible. Because of the loss of historic integrity, the Vallemar Station is not eligible for the NRHP. In accordance with the CEQA Guidelines, however, Vallemar Station is an historical resource for the purposes of CEQA because the building is listed in the CRHR at a local level.

No other local, state, or federal historically or architecturally significant structures, landmarks, or points of interest have been identified or observed in or adjacent to the project. None of the structures or buildings that are located on the parcels from which right-of-way will be required are historic. None of the bridges or other transportation structures located within the APE are historic.

#### *2.8.2.3 Native American Consultation*

The Native American Heritage Commission (NAHC) was contacted for a search of the Sacred Lands Inventory. The NAHC record search was negative for Native American resources in or adjacent to the project APE. Letters soliciting additional information were sent to the seven Native Americans individuals/groups listed by the NAHC. Follow up telephone calls were undertaken in June 2007. Two responses were received, as summarized in Appendix G.2. No additional information was obtained regarding cultural resources within the APE from other individuals contacted.

### 2.8.3 Environmental Consequences

Based upon the research, technical studies, and field testing described above, the project Build Alternatives could potentially affect a cultural resource site (CA-SMa-268), which is eligible for the NRHP and CRHR, within the APE. The Department, in accordance with Stipulation X.B.2 (a)(ii) and (iii) of the 2004 Programmatic Agreement (PA), has determined that a Finding of No Adverse Effect with Standard Conditions is applicable for archaeological sites CA-SMA-162 and CA-SMA-268. Under the PA obligations, Caltrans notified SHPO of this finding. The project includes the measures below to avoid any effects to these resources.

As indicated above under the *Affected Environment* discussion, the architectural resources within the APE underwent formal evaluation and have been determined not to be eligible for the NRHP. SHPO has been notified of the eligibility determinations for the architectural resources within the APE.

The project would not affect any Section 4(f) historic resources (refer to the discussion above in Section *2.1 Land Use* and Appendix B of the HPSR).

Pursuant to CEQA Guidelines §15064.5(a), the Department has determined that the Vallemar Station is an historic resource under CEQA and is eligible for the CRHR at a local level. The project Build Alternatives would not affect the Vallemar Station because there will be no demolition, relocation, alteration, or material impairment to the physical characteristics that justify the determination of the resource's historical significance (per CEQA Guidelines sec. 15064.5(b)). Following project construction, Vallemar Station will still retain the characteristics that qualify it as a historical

resource. The SHPO concurred to the eligibility and ineligibility of historic properties within the APE on February 22, 2010. .

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

Caltrans in accordance with Stipulation X.B.2 (a)(ii) and (iii) of the 2004 Programmatic Agreement (PA), has determined a **Finding of No Adverse Effect with Standard Conditions - ESAs**, is applicable for archaeological sites CA-SMA-162 and CA-SMA-268. Under the PA obligations, Caltrans notified SHPO of this finding.

#### *2.8.4.1 Environmentally Sensitive Areas*

Two separate Environmentally Sensitive Areas are included as part of the project and will be maintained for each resource under either Build Alternative. ESA 1 is for CA-SMa-162 and ESA 2 is for CASMa-268.

The following avoidance and minimization measures are proposed to reduce effects to cultural resources.

**ESA 1 (CA-SMa-162)**

**AM CUL-1.1:** ESA 1 (CA-SMa-162) includes the area west of the western site boundary near the Reina Del Mar Avenue intersection. Anticipated work within the ESA will include removal of the engineered fill embankment, which was placed during road construction in the 1960s, to allow for widening of the SR 1. Monitoring shall be undertaken within the Archaeological Monitoring Area (AMA) adjacent to the ESA boundary in association with a Native American Consultant to ensure that the ESA is not compromised during the removal of the engineered fill embankment placed during road construction in the 1960s to allow for future highway improvement to Highway 1. The AMA includes the recorded site boundary of CA-SMA-162 and a small buffer.

- The ESA fence and AMA shall be professionally surveyed and marked. The AMA measures approximately 270 feet north-south by 80 feet east-west (19,000 square feet) and includes the boundary of CA-SMA-162 and a small buffer.
- The ESA boundary shall be marked with appropriate visible barrier fencing at least four (4) feet high and attached to temporary fence posts to indicate the presence of a “no-go” area.
- The ESA boundary fence shall be clearly identified with a sign every 25 feet to indicate that it is an ESA and no work is authorized beyond the marked ESA boundary.
- The ESA shall be marked on construction documents and contractual language shall be included indicating that no excavation or other ground disturbing activity is permitted within the ESA.

- Subsurface construction within the AMA shall not occur without the presence of a qualified Archaeological Monitor and a Native American Consultant. The Native American Consultant shall assist the Archaeological Monitor during construction and provide guidance in the event of the discovery of prehistoric artifacts and/or human remains.

- Monitoring of all earth disturbing construction within the AMA shall be conducted by a qualified Archaeological Monitor with regional experience with prehistoric cultural materials and experience in identifying human bone. The San Mateo County Transportation Authority (SMCTA) Project Engineer and Project Inspector shall be responsible for implementation and enforcement of the archaeological monitoring requirements including notifying the Archaeological Monitor 48 hours in advance of any monitoring needs.

- The monitoring team shall have the authority to temporarily halt construction to examine any finds within the AMA and immediately adjacent areas. Diagnostic artifacts that could provide interpretive information for CA-SMa-162 shall be collected at the discretion of the Archaeological Monitor in consultation with the Native American Consultant.

- Monitoring shall be undertaken within the AMA for a minimum of five feet below the present ground surface and shall be deemed complete when no evidence of subsurface cultural materials is noted in the sediments to be removed by construction.

- A pre-construction meeting shall be held with the Contractor and other project personnel to discuss the ESA requirements and the potential for the exposure of archaeological materials within the AMA. Procedures for any unanticipated discoveries shall be discussed with the Contractor and Environmental Construction Liaison and other pertinent parties.

*Treatment of Unexpected Discoveries*

- If buried cultural materials are encountered during construction within the AMA, work shall stop in that area until a qualified archaeologist can evaluate the nature and significance of the find.

*Report*

- An Archaeological Monitoring Closure Report shall be provided by the SMCTA Project Engineer or other designated entity to Caltrans District 04 within 30 calendar days of the completion of monitoring. The report shall provide information on the monitoring protocols, dates of monitoring, discoveries, results, etc., along with appropriate graphics and supplementary materials. A letter format report is acceptable.

**AM CUL-1.2:** ESA 2 (CA-SMa-268) is a vertical APE with no surface component and consists of the 1940 ground surface buried under the fill placed during construction in the 1960s. The ESA is roughly rectangular and consists of the site boundary with a small buffer.

No monitoring is recommended as analysis of the original ground surface as of 1940 with current elevations and proposed subsurface construction impacts indicates that all construction will occur within existing fill with at least a three- to five-foot buffer or more. Work in the ESA will include road widening and the installation of a retaining wall north of Reina Del Mar Avenue within the recorded site boundary.

- The ESA shall be professionally surveyed and marked. The ESA western boundary is approximately 250 feet long; the eastern boundary is approximately 200 feet long; the southern boundary is 120 feet wide; and the north boundary is about 115 wide.

- The ESA shall be marked on construction documents and contractual language shall be included indicating that no excavation or other ground disturbing activity is permitted below the approximate depth of the improvements proposed within the ESA.

- Earth disturbing construction within the ESA shall be checked on a daily basis by the Contractor and reported to the Environmental Construction Liaison to determine the depth to the 1940 grade. If the grade is within three feet or less, this information shall be reported to the Caltrans Professionally Qualified Staff (PQS) Archaeologist for review.

- A pre-construction meeting shall be held with the Contractor and other project personnel to discuss the ESA requirements and the potential for the exposure of archaeological materials within the ESA at depths below the approximate improvement depth. Procedures for penetration into the 1940 grade shall be discussed with the Contractor and Environmental Construction Liaison and other pertinent parties.

*Treatment of Unexpected Discoveries*

- If buried cultural materials are encountered during construction within the ESA, work shall stop in that area until a qualified archaeologist can evaluate the nature and significance of the find.

- If human remains are exposed in the ESA during project construction, all work in that area must halt and the San Mateo County Coroner must be contacted, pursuant to California Public Resources Code Sections 5097.94, 5097.98, and 5097.99.

*Report*

- An Archaeological Monitoring Closure Report shall be provided by the SMCTA Project Engineer or other designated entity to Caltrans District 04 within 30 calendar days of the completion of monitoring. The report shall provide information on the monitoring, dates of monitoring, discoveries, results, etc., along with appropriate graphics and supplementary materials. A letter format report is acceptable.

#### *2.8.4.1 Areas Outside of ESAs*

For all other areas outside of the ESAs the following avoidance and minimization measures are proposed:

**AM CUL-2.1:** If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

**AM CUL-2.2:** If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner be contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact the Caltrans District 04 Office of Cultural Resource Studies so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 are to be followed as applicable.

# PHYSICAL ENVIRONMENT

## 2.9 HYDROLOGY AND FLOODPLAIN

The information in this section is based primarily on a technical *Location Hydraulic Study* that was prepared for the project. The study is incorporated into this EIR/EA by reference. A copy of this study is available for review at the locations listed inside the front cover of this document.

### 2.9.1 Regulatory Setting

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

In order to comply, the following must be analyzed:

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

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

### 2.9.2 Affected Environment

Development in most of the study area extends to the banks of the streams. The surface streams located at the project site are Calera Creek and Rockaway Creek. Calera Creek passes under SR 1 through a 400-foot concrete box culvert just north of Reina Del Mar Avenue. Rockaway Creek, Calera Creek and Sanchez Creek are direct receiving water bodies for the Calera Parkway project. Calera Creek and Rockaway Creek discharge into the Pacific Ocean at Rockaway Beach approximately 0.7 and 0.1 miles downstream of the southern end of the project, respectively.

Sanchez Creek does not cross SR 1 within the Calera Parkway Project area, but the Project includes a portion of the Sanchez Creek watershed. Because of a seawall, Sanchez Creek empties into Horse Stable Pond, where water is then pumped to the Pacific Ocean at Sharp Park Beach. The Pacific Ocean at Rockaway Beach is the receiving water body for most of the runoff from increased impervious area, storm water affected by construction, and both Calera and Rockaway Creeks.

Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), two portions of the project segment lie within an existing one percent floodplain (see Figure 2.2).[29] There are two main reasons why these areas are designated as floodplains:

- Overflows from Rockaway Creek could occur because of inadequately sized culverts. This would occur at Oddstad Way, Buel Avenue, and SR 1.

- Overflows from Calera Creek could occur because of inadequately sized culverts; small, bush-choked channels; and overbank areas with low topographic relief.

Based on the FEMA Flood Insurance Rate Map (FIRM) Number 060323 0004D, SR 1 traverses "Zone A"--type Special Flood Hazard Areas (SFHAs) and "Zone B"--type SFHAs associated with Rockaway Creek and Calera Creek. There is also a "Zone C"--type SFHA for Calera Creek. The "Zone A"--type SFHAs in the vicinity of SR 1, however, are contained within the culverts that cross beneath SR 1.

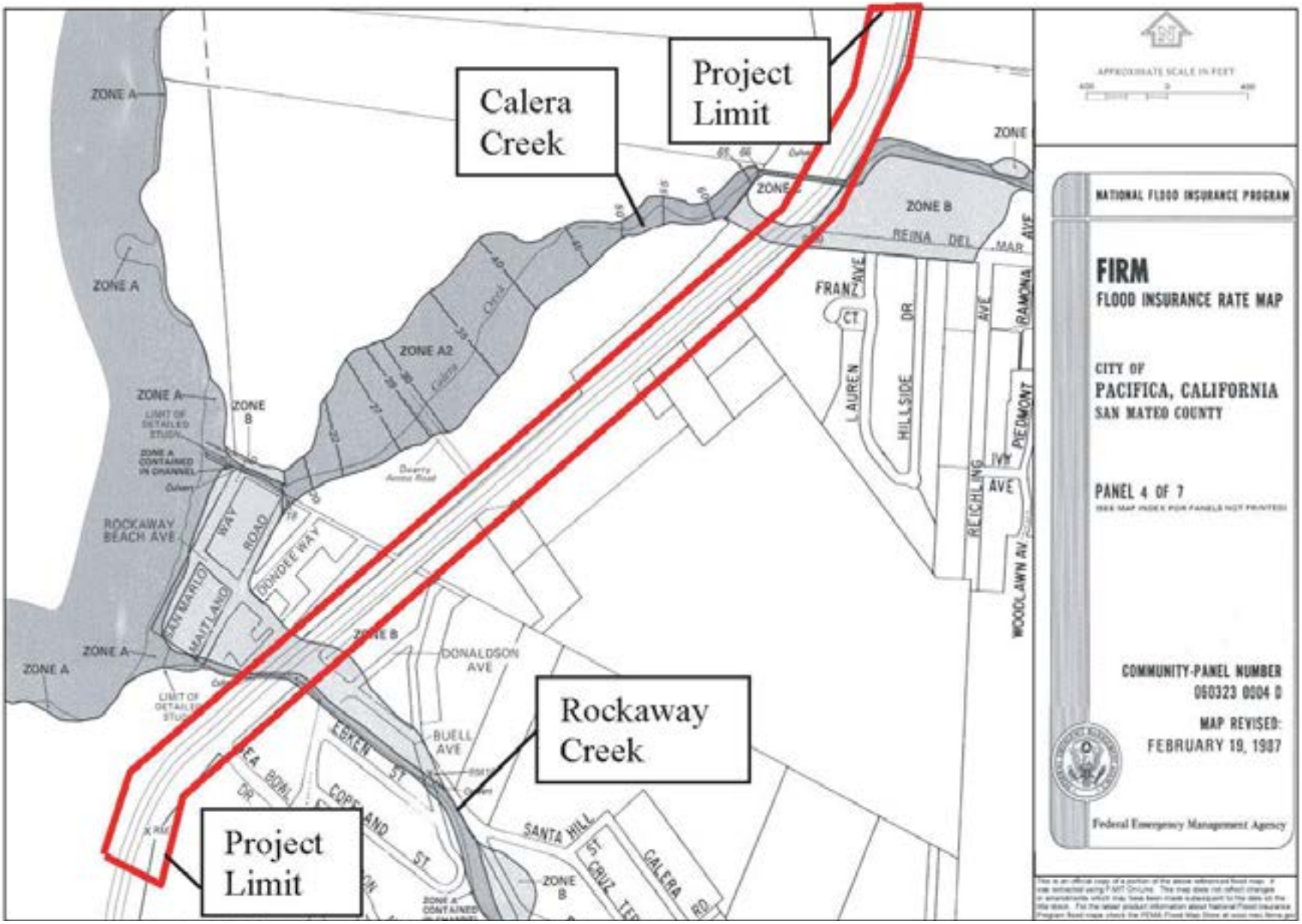
According to FEMA, Zone A corresponds to the one percent (1%) probability of exceedance floodplain, and Zone B corresponds to "Areas between the limits of the one percent probability flood and the 500-year flood; or certain areas subject to one percent event flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from base flood." Zone C corresponds to areas of minimal flooding. The FIS states that the hydraulic analyses for the FEMA FIS study were based on unobstructed flow.

Local shallow flooding occurs at SR 1 during the one percent event; however, no traffic interruption is expected due to the base flood.

Natural and beneficial floodplain values include, but are not limited to: fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural moderation of floods, water quality maintenance, and ground water recharge.

The revised 2007 *Water Quality Control Plan (Basin Plan)* for the San Francisco Bay Regional Water Quality Control Board (RWQCB) does not list any beneficial uses for Calera Creek or Rockaway Creek. There are several areas within the project limits that are designated as Environmentally Sensitive Areas (ESAs) due to the presence of potential California Red Legged Frog habitat as well as nearby jurisdictional wetlands of the California Coastal Commission (CCC), and so direct affects to CCC jurisdictional wetlands would not be allowed except under special circumstances provided under the California Coastal Act (refer to Section *2.17 Wetlands and Other Waters* and *Section 2.20 Threatened and Endangered Species*).

[29] The **one percent floodplain** is the area that would be inundated during a flood event that has a one percent chance of occurring or being exceeded in any given year. The one percent event is sometimes referred to as the "100-year" flood event because it has an average return period of 100 years.




Zone A: Areas subject to inundation by the one percent annual chance (or 100-year) flood event

Zone B: Areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood; certain areas subject to one percent event flooding with average depths less than one (1) foot; or areas protected by levees from the base flood

Source: Federal Emergency Management Agency

FLOOD MAP

FIGURE 2.2

### 2.9.3 Environmental Consequences

The flood risk associated with the project is low. Portions of the project area are within the one percent floodplain; however, the proposed project would not affect the floodplains. The Narrow Median Build Alternative would result in an additional 5.9 acres (0.009 square miles) of impervious area, and the Landscaped Median Build Alternative would result in an additional 6.56 acres (0.010 square miles) of impervious area, beyond existing conditions. The additional impervious area amounts due to either of the project Build Alternatives is minor relative to the 1,311 acres (2.05 square miles) of combined watershed area, 384 acres (0.6 square miles) for Rockaway Creek and 928 acres (1.45 square miles) for Calera Creek, which drains to the project area. Consequently, this increase in impervious area would have a minimal effect on the existing hydrology.

Either of the project Build Alternatives would result in an increase in the extent of impervious area. As discussed above, this increase would be minor compared to the overall watershed area and would have a negligible effect upon the floodplains associated with the water bodies that cross the project. This increase could, however, result in local ponding due to increases in local runoff to individual storm drain systems beyond their current conveyance capacity.

The proposed highway facility would be wider and the new shoulders would also be wider (outside shoulders would be widened from the existing typical width of four to six feet to new 10 foot wide shoulders which have a significantly greater spread width capacity). During the final design phase, storm drain facilities would be improved as needed to meet hydraulic design standards. The final design would ensure that storm and floodwaters would not encroach on the traveled way. The project would upgrade highway storm drain systems to accommodate the increase in impervious area such the storm drain systems would avoid problematic flooding during a four percent (25-year) design storm per the criteria in the *Highway Design Manual*. In addition, the highway, itself, would remain at least as passable in a one percent (100-year) storm as it is in the existing condition, per FHWA criteria.

Natural and beneficial floodplain values within the project area include ESAs and jurisdictional CCC wetlands. A portion of the proposed highway would be cantilevered in order to avoid affecting a wetland "finger" area and the project would employ 1,400 feet of retaining walls in order to avoid encroachment into any wetlands. As a result of these measures, the project would not disturb ESAs and/or wetlands (refer to Section *2.17 Wetlands and Other Waters* and Section *2.20 Threatened and Endangered Species*).

The proposed highway widening will not result in a significant encroachment, as defined at 23 CFR 650.105, of a base floodplain.

In addition, construction Best Management Practices (BMPs) would be implemented to minimize runoff to water bodies and wetlands. The project would also include permanent treatment BMPs, biofiltration swales, and bio-strips to treat stormwater originating on-site before it reaches storm drain systems.

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

The project will appropriately increase storm drain capacities so that local ponding associated with the one percent probability of annual exceedance storm event would not differ significantly from ponding under the existing condition.

Standard construction BMPs will be implemented to minimize the amount of runoff to water bodies and wetlands. The project will also include permanent treatment BMPs, biofiltration swales, and bio-strips to treat stormwater originating on-site before it reaches water bodies, wetlands, or storm drain systems (refer to the avoidance, minimization, and mitigation measures described below under Section *2.10.4 Water Quality and Storm Water Runoff*).

## 2.10 WATER QUALITY AND STORM WATER RUNOFF

### 2.10.1 Regulatory Setting

#### *2.10.1.1 Federal Requirements: Clean Water Act*

In 1972, the Federal Water Pollution Control Act was amended, making the discharge of pollutants to the waters of the United States from any point source unlawful, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The Federal Water Pollution Control Act was subsequently amended in 1977, and was renamed the Clean Water Act (CWA). The CWA, as amended in 1987, directed that storm water discharges are point source discharges. The 1987 CWA amendment established a framework for regulating municipal and industrial storm water discharges under the NDPES program. Important CWA sections are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal project 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.
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) into waters of the United States. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) addresses storm water and non-storm water discharges.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

USACE issues two types of 404 permits: Standard and General permits. There are two types of General permits, Regional permits and Nationwide permits. Regional permits are issued for a

general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

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

#### *2.10.1.2 State Requirements: Porter-Cologne Water Quality Control Act (California Water Code)*

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair beneficial uses for surface and/or ground water of the state.

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

#### *2.10.1.3 State Water Resources Control Board and Regional Water Quality Control Boards*

The SWRCB administers water rights, water pollution control, and water quality functions throughout the state. RWQCBs are responsible for protecting beneficial uses of water resources

within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- NPDES Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). The U.S. EPA defines an MS4 as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying storm water." The SWRCB has identified the Department as an owner/operator of an MS4 pursuant to federal regulations. The Department's MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The Department's MS4 Permit, under revision at the time of this update, contains three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);

2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and

3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the Maximum Extent Practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

- Construction General Permit

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites which result in a Disturbed Soil Area (DSA) of one acre or

greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). In accordance with the Department's Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with DSA less than one acre.

Caltrans Statewide NPDES Permit requires the Department to submit a Notice of Intent (NOI) to the RWQCB to obtain coverage under the Construction General Permit. Upon project completion, a Notice of Termination (NOT) is required to suspend coverage. This process will continue to apply to Department projects until a new Caltrans Statewide NPDES Permit is adopted by the SWRCB. The NOI is submitted electronically through the Storm Water Multiple Application and Report Tracking System (SMARTS). SMARTS is an on-line tool to assist dischargers to submit NOIs, NECs, NOTs, and annual reports while reviewing the status of submitted documents and fees. It allows the RWQCB staff to track and process the discharger's submitted documents. A Storm Water Pollution Prevention Plan (SWPPP) will be used for this project, which has a DSA of more than one-acre.

- Section 401 Permitting

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

In some cases the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as Waste Discharge Requirements (WDRs) under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

The RWQCB also issues water quality certifications in compliance with Section 401 of the Clean Water Act. However, a 401 certification will not be required for this project, as a cantilevered bridge will be constructed over an existing culvert outfall to accommodate the roadway widening, but the proposed project will not involve any work within the culvert or change the culvert in any way.

During the construction phase, compliance with the permit and the Department's Standard Special Conditions requires appropriate selection and deployment of both structural and non-structural BMPs. These BMPs must achieve performance standards of Best Available Technology economically achievable/Best Conventional Pollutant Control Technology (BAT/BCT) to reduce or eliminate storm water pollution.

### 2.10.2 Affected Environment

The information in this section is based primarily on a technical *Storm Water Data Report* completed in August 2009 and a *Water Quality Study Report* completed in April 2009 for the project. These studies are incorporated into this EIR/EA by reference and are available for review at the locations listed inside the front cover of this document.

Storm water runoff from the project area discharges into Rockaway Creek, Calera Creek, and Sanchez Creek. Calera Creek and Rockaway Creek discharge into the Pacific Ocean at Rockaway Beach approximately 0.7 miles and 0.1 miles downstream of the southern end of the project site, respectively. Sanchez Creek is not located within the project limits; however, the northern limits of the project site drain into Sanchez Creek. Because of a seawall, Sanchez Creek drains into Horse Stable Pond, after which it is pumped and piped into the Pacific Ocean. Sanchez Creek crosses SR 1 approximately 0.7 miles upstream of its discharge point into the Pacific Ocean.

The water quality in the creeks depends upon the volume of water at a given time of the year. Water quality is also dependent upon the concentration of contaminants, which flow into the creeks as a component of urban runoff via storm drains. These contaminants include such items as oil and grease, fuel residues, tire particles, plant and animal debris (e.g., leaves, dust, animal feces, etc.) litter, and heavy metals. In sufficient concentrations, these pollutants have been found to adversely affect the aquatic habitat of these streams and the San Francisco Bay and Pacific Ocean, which these streams flow into.

Section 303(d) of the CWA requires that states develop a list of water bodies that do not meet water quality standards. According to the latest list developed by the San Francisco Bay RWQCB in 2006, the Pacific Ocean at Rockaway Beach is listed as an impaired water body for coliform bacteria due to urban runoff/storm sewers.

There are no significant groundwater resources within the project area, and the project area is not included in any of the 28 California Department of Water Resources identified groundwater basins. The nearest California Department of Water Resources listed well is approximately ten miles south of the project site. According to the Soil Survey of San Mateo County, the depth of the water table for the area surrounding the project site is greater than six feet.

### 2.10.3 Environmental Consequences

Either of the two proposed Build Alternatives may affect water quality during the short-term (i.e., construction phase) and long-term (i.e., operational phase). The short-term effects are described in Section *2.22 Water Quality Short-Term Effects During Construction* of this document. The long-term effects are described below.

Compared to existing/no project conditions, the Build Alternatives would not have a substantial effect on long-term water quality. This conclusion is based on the fact that the two project Build Alternatives would create approximately 5.9-6.56 acres of new impervious surfaces within the watershed area. This is a relatively minimal increase in impervious surfaces, especially given the fact that most of the project site is already covered by existing impervious surfaces (i.e., the existing highway). Therefore, the increase in pollutant-containing runoff would not be substantial.

The ground water table in the project area is relatively deep (more than six feet) and the nearby soils are primarily classified as "impervious." Therefore, the project is not expected to cause permanent effects to ground water. The project may have the potential to encounter ground water in the structure excavations, which may involve non-storm water discharges. A project-specific Waste Discharge Permit (WDRs) may be required from the RWQCB, if substantial dewatering is to be done.

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

To comply with the conditions of the Caltrans Construction General Permit, and address the temporary water quality impacts resulting from the construction activities in this project, compliance with Storm Water Pollution Prevention Plan Standard specifications is required. This Standard Specification will address the preparation of Storm Water Pollution Prevention Plan (SWPPP) document and the implementation of SWPPP during construction. Best Management Practices (BMPs) need to be implemented to address the temporary water quality impacts resulting from the construction activities in the project. BMPs will include the measures of soil stabilization, sediment control, wind erosion control, tracking control, non-storm water management, and waste management/materials pollution control. Appropriate BMPs and their quantities need to be developed during the PS&E phase. In addition, depending on project risk level, certain monitoring and reporting will be required.

Although long-term water quality effects will be negligible, the design of the project includes BMPs to reduce the pollutant component of storm water runoff, as required by the Caltrans NPDES permit (see above discussion). In addition to the requirements of the NPDES permit, compliance with the requirements of the Caltrans Stormwater Management Plan (SWMP) is also required. The SWMP describes the programs to reduce the discharge of pollutants associated with the storm water drainage systems, and describes how Caltrans will comply with the provisions of the NPDES permit.

To minimize post-construction water quality effects, post-construction BMPs have been considered for incorporation into the project. Those BMPs considered include infiltration devices, biofiltration strips and swales, wet basins, media filters, detention devices, and multichamber treatment devices

(often referred to as "treatment trains"). Biofiltration strips or swales have been identified as the most feasible BMPs for this project. Biofiltration strips and swales are vegetated surfaces that remove pollutants by filtration through grass, sedimentation, adsorption to soil or grass, and infiltration through the soil. Strips and swales are mainly effective at removing debris and solid particles, although some constituents are removed by absorption to the soil. Biofiltration swales are vegetated channels that receive directed flow and convey storm water. Six locations are suitable for the creation of biofiltration strips or swales within the project limits. These locations are as follows:

- One swale adjacent to northbound side of SR 1, south of Coast Lane
- One swale on the southbound side of SR 1, adjacent to Old County Road
- One swale adjacent to northbound side of SR 1
- One strip adjacent to southbound side of SR 1, south of Reina Del Mar Avenue
- One swale adjacent to southbound side of SR 1, south of Reina Del Mar Avenue
- One swale adjacent to northbound side of SR 1, just north of the end of the project

In addition, the project will implement permanent design pollution control BMPs to improve stormwater quality by reducing erosion, stabilizing disturbed soil areas, and maximizing vegetated surfaces. These measures could include a combination of source and sediment control measures to prevent and minimize erosion from disturbed soil areas. Source controls will utilize erosion control netting in combination with hydroseeding. Outlet protection and velocity dissipation devices will also be included.

Also, the ground water shall be tested for potential contamination as a part of the Hazardous Waste Site Investigation Contract administered by the Hazardous Waste branch in the Office of Environmental Engineering. An appropriate dewatering Special Provision will then be prepared dependent on the levels of contaminants reported in the Site Investigation Report to ensure the proper handling and disposal of the ground water.

## 2.11 GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY

The information in this section is based primarily on a *Preliminary Geotechnical Report* that was prepared for the project in September 2009 and an Addendum to this report in August 2010. A copy of this study and the addendum are available for review at the locations listed inside the front cover of this document.

### 2.11.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under CEQA.

This section discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. The current policy is to use the anticipated Maximum Credible Earthquake (MCE) from young faults in and near California. The MCE is defined as the largest earthquake that can be expected to occur on a fault over a particular period of time.

### 2.11.2 Affected Environment

The project segment of SR 1 runs generally near the Pacific Coast and consists of rolling topography. Ground elevations in the study area range from approximately 20 feet above sea level near the southerly project limits to 275 feet above sea level at the northerly project limits. The natural gradient in the area generally slopes downward to the west. The properties east of SR 1 are sloped above the roadway, while the properties west of SR 1 generally slope downward toward the coastal bluffs. The Pacific Ocean is located approximately 700 feet west of the project alignment.

Man-made and native embankments exist along the west side of SR 1 along much of the project segment. Some of the existing roadway profile traverses across hilly terrain, resulting in cut slopes and retaining walls.

No active faults cross under the project segment of SR 1. The project, however, is located in a seismically active area of Northern California. Many faults capable of producing earthquakes exist in the San Francisco Bay Area, which may cause strong ground shaking in the vicinity of the project area. The closest active fault to the project alignment is the Peninsula Section of the San Andreas Fault located 2.3 miles east/north-east of the project. The San Gregorio Section of the San Gregorio Fault is located approximately 5.3 miles west of the project. The San Andreas and San Gregorio Faults generally parallel each other, to the east and west, respectively, of the SR 1 project section.

The San Andreas and San Gregorio Faults are designated with maximum magnitudes (Mmax) of 7.9 and 7.0, respectively, on the Caltrans California Seismic Hazard Map. The maximum magnitudes represent the largest earthquake that could occur on the given fault based on the current

understanding of the regional tectonic structure. The MCE, therefore, is the earthquake on the San Andreas Fault, since it potentially releases the highest energy (Mmax = 7.9) and results in the strongest shaking at the site.

The project segment of SR 1 from north to south is underlain by alluvial soil and fill north of Reina Del Mar Avenue and Franciscan Complex Volcanic Rocks north of San Marlow Way where alluvial soils start through Fassler Avenue/Rockaway Beach Avenue. South of Fassler Avenue/Rockaway Beach Avenue, the alignment is underlain by Franciscan Complex Sedimentary Rocks. Based upon the Soil Survey Map of San Mateo County, California, the soils in the project area are mainly fine sandy loam to sandy clay loam. The drainage characteristics of the soils in this area are well drained and the erosion hazard is low.

Based upon the geologic and seismic data, the possibility of the SR 1 project alignment to experience strong ground shaking is considered low to moderate and the project segment is mapped as being within a liquefaction hazard zone ranging from generally low to moderate. Most of the project area has a low potential for landslides and earth flows.

### 2.11.3 Environmental Consequences

The proposed Build Alternatives would involve typical highway excavation and grading practices necessary to construct the additional lanes and intersection modifications. There are no geologic features on the site that would pose special or unique hazards to users of the proposed improvements. The project would implement standard engineering practices to ensure that geotechnical and soil hazards do not result from its construction.

The site is within the seismically active San Francisco Bay Area and severe ground shaking is probable during the anticipated life of the project. Users of the highway and intersections would be exposed to hazards associated with such severe ground shaking during a major earthquake on one of the region's active faults. This hazard is not unique to the project because it applies to all locations throughout the greater Bay Area. The proposed project would not increase the existing exposure to hazards associated with earthquakes; the hazards in the area would be the same with or without the project.

The proposed roadway widening and intersection improvements would be designed and constructed in accordance with Caltrans Design guidelines for Seismic Zone 4 to avoid or minimize potential damage from seismic shaking on the site. Potential seismic effects will be minimized by the use of standard engineering techniques mandated by the Uniform Building Code and the Caltrans Design Standards.

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

No additional avoidance, minimization, or mitigation measures are proposed or required beyond the standard engineering techniques mentioned above. Refer to Section *2.10 Water Quality and Storm Water Runoff* for the BMPs included in the project to minimize erosion control.

## 2.12 PALEONTOLOGY

The information in this section is based primarily on a *Paleontological Identification Report* that was prepared for the project in August 2012.[30]

### 2.12.1 Regulatory Setting

Paleontology is the study of life in past geologic time based on fossil plants and animals. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized or funded projects. (e.g., Antiquities Act of 1906 [16 USC 431-433], Federal-Aid Highway Act of 1960 [23 USC 305]), and the Omnibus Public Land Management Act of 2009 [16 USC 470aaa]). Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

### 2.12.2 Affected Environment

Paleontological resources include fossil plants and animals and other evidence of past life such as preserved animal tracks and burrows. The paleontological sensitivity of a geologic unit is determined by its potential to contain paleontological resources. A Paleontological Identification Report (PIR) was prepared in April 2012, which describes the potential for paleontological resources within the project area that could be affected by the project. The paleontological study area (PSA) for the PIR included the 1.3 mile project area along SR1. A field survey was conducted along the PSA in April 2012. Background research for the PIR consisted of a literature review, map review, and a fossil locality search. This research identified the geologic units, previous paleontological studies, fossil localities (location of paleontological resources that have been documented), and types of fossils in geologic units that may be within or adjacent to the project area.

Review of the data sources show the project site is located on artificial fill, slope and ravine fill, Marine Terrace deposits, and the Franciscan Formation, which includes limestone, greenstone, sandstone and sheared rock or melange.

The UC Museum of Paleontology (UCMP) Database, has 732 fossils found within San Mateo County, however, the majority are not within close proximity of the project site. An article written in the Pacifica Patch, on October 24, 2011 stated that a clutch of bones from a mammoth species was discovered near Esplanade Avenue in Pacifica, which is approximately two miles north of the project site. Dr. Jean DeMouthe, of the California Academy of Science, identified the fossils found in Pacifica and stated that, it is probable that the mammoth fossils found are coming from the terrestrial facies within the Merced Formation.
Dr. DeMouthe further noted that these types of rocks have not been found within the project area.

The search at the UCMP found no record of prior finds within the project area or the town of Pacifica. During the windshield survey, no paleontological resources were observed.

[30] Subsequent to receiving a public comment letter during the Draft EIR/EA review period pertaining to a recent paleontological resource find near the project site, Caltrans requested that a Paleontology section be incorporated into the EIR/EA.

A site record and literature search was undertaken to determine if known paleontological resources are present within the project's area. Institutions and reports were consulted and included: Berkeley Natural History Museum; UCPM Database; UCPM Database professor search; California Academy of Science Research Professor search; and USGS, Geologic Map of the Montara Mountain and San Mateo.

### 2.12.3 Environmental Consequences

Based on the institutions and records search, the project area is considered to have a high potential of paleontological sensitivity, since the Pleistocene Terrace deposits units have in the past yielded fossils. The Franciscan formation has yielded fossils in the past, but these are usually microfossils and are very abundant and found in numerous areas within the Bay area, and therefore, are not considered significant. The Calera Limestone also falls into the category of not considered significant, because of their abundance. Construction activities can impact paleontologically geologic units when vehicles or other work equipment impact previously undisturbed sediments by excavating, grading, or crushing bedrock exposed in or underlying a project. This can result in impacts to fossils by destroying them or otherwise altering them in such a way that their scientific value is lost.

The middle portion of the project is the location where the geological deposits are the most sensitive. Within this area, the roadway will be widened to the west of the existing roadway. The widening will be constructed on new embankment contained by retaining walls to prevent encroachment into environmentally sensitive areas. The other half of the area to be widened would be excavated into an existing, man-made embankment. This means the natural deposits will not be disturbed, and no paleontological resources will be affected in this area of the project site.

The areas where planned ground-disturbing/excavation activities into native soils will occur within the project footprint could potentially impact paleontological resources. Excavations will take place in three locations: at the southeastern end of the project site (Cut 1), southeast of Fassler Avenue (Cut 2), and northwest of Reina Del Mar Avenue (Cut 3). Cut 1 and Cut 3 are within the Franciscan formation, and Cut 2 is in limestone. The average depths of Cut 1 and Cut 2 are seven feet and the average depth of Cut 3 is 60 feet. Cut 1 and Cut 2 are approximately 10 feet wide and are 700 and 600 feet long, respectively. Cut 3 is approximately 60 feet wide and 1,000 feet long.

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

The following avoidance and minimization measures for paleontological resources are proposed and are in accordance with Caltrans' Standard Environmental Reference Guidelines (Caltrans, 2007) for those areas where ground-disturbing activities may take place.

**AM PAL1-1:** Depending on the wall type to be placed in the terrace deposits, if excavation is expected, a Paleontological Evaluation Report (PER) will be prepared, prior to construction to define actual locations where monitoring will be necessary based upon the project design. If no excavation is needed, a PER is not required because the remaining geologic deposits have been thoroughly studied in the past and the fossils are abundant enough not to be considered significant.

**AM PAL1-2:** Based on the findings from the PER, a Paleontological Mitigation Plan (PMP) may be required to define a specific Program of measures and methods that will be implemented. These requirements may include:

- A qualified paleontologist will be present to consult with grading and excavation contractors at pre-grading meetings.
- The Principal Paleontologist will also have an environmental meeting to train grading and excavation contractors in the identification of fossils.
- When fossils are discovered, the paleontologist (or paleontological monitor) will be called to recover them. Construction work in these areas will be halted or diverted to allow recovery of fossil remains in a timely manner.
- Fossil remains collected during the monitoring and salvage portion of the Program will be cleaned, stabilized, sorted, and catalogued.
- Prepared fossils, along with copies of all pertinent field notes, photos, and maps, will then be deposited in a scientific institution with paleontological collections (i.e., UC Museum of Paleontology, Berkley, CA).
- A final report will be completed that outlines the results of the Program.

## 2.13 HAZARDOUS WASTE/MATERIALS

The information in this section is based primarily on a technical *Initial Site Assessment (ISA)* that was prepared for the project in January 2009 and an Addendum to this ISA that was prepared in May 2010. Copies of the ISA study and the Addendum are available for review at the locations listed inside the front cover of this document.

The purpose of preparing an ISA is to identify areas within or adjacent to the project where contamination from hazardous materials exists and/or where there is likelihood that such contamination may be present. The reason for this research is to alert the public and governmental agencies to these contaminated areas so that future problems associated with exposure to hazardous materials can be avoided. A secondary, but important, reason for this research is to alert officials who are considering the purchase of property of any existing and/or potential contamination, since property owners can be held responsible for the cost of cleanup in many cases.

### 2.13.1 Regulatory Setting

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health and land use.

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

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

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

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976, and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

## 2.13.2 Affected Environment

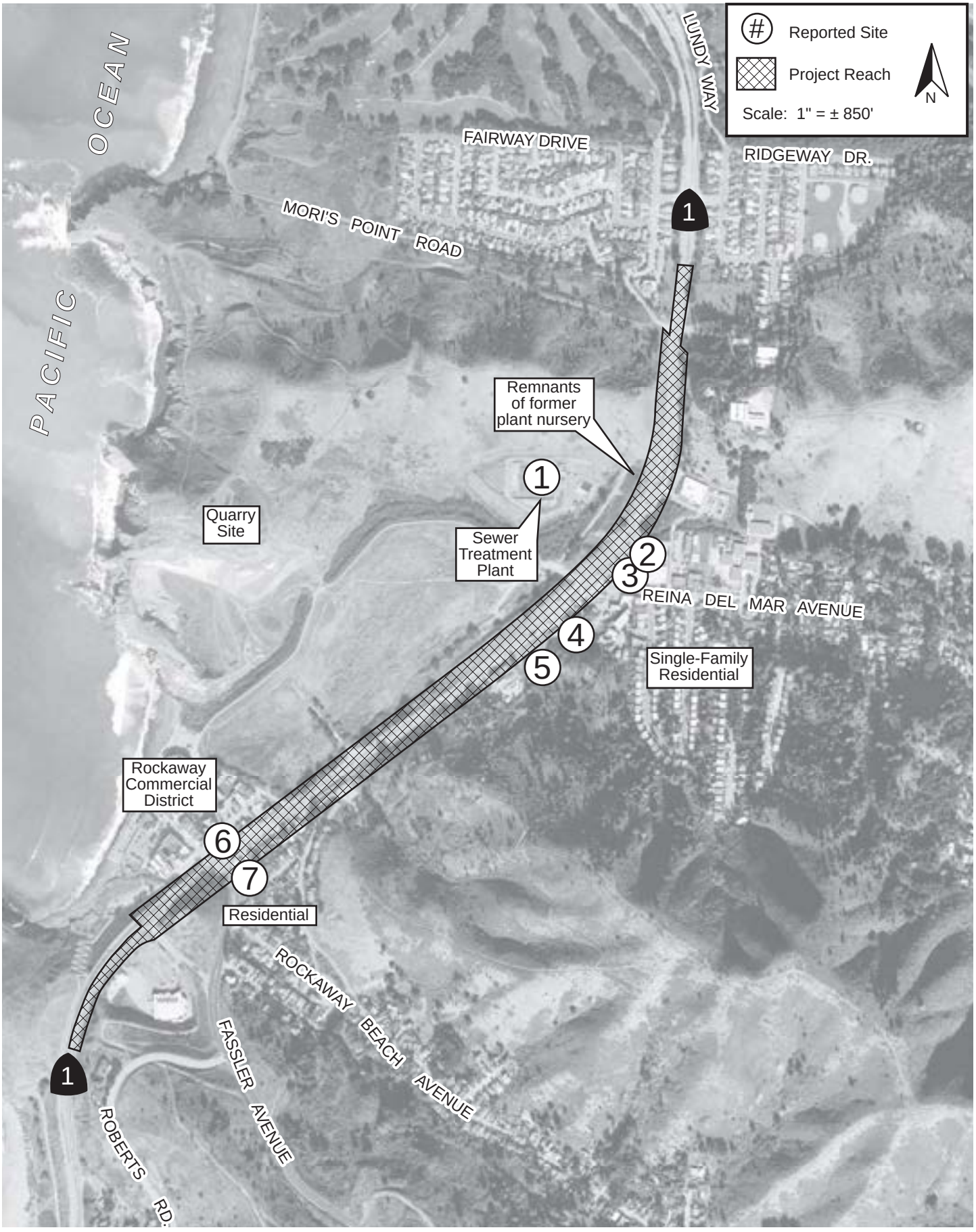
### *2.13.2.1 Sites with Hazardous Material Spills or Contamination Incidents*

To evaluate the likelihood of contamination incidents at and near the site, a search of environmental regulatory databases was completed. The City of Pacifica Building Department, the San Mateo County Department of Environmental Health (SMCDEH), and North County Fire Department were also contacted. The ISA determined that there are several sites in the vicinity of the project segment of SR 1 where hazardous materials are or have been generated, used, or stored and/or where some type of spill/leakage/contamination has occurred. For most locations where soil or ground water contamination has been found, the source of the contamination was leaking underground storage tanks. In virtually all of these cases, the leaking tanks have been removed and remediation has occurred (or is occurring) under the supervision of various governmental entities. Many of the listed sites are either down/cross gradient or too far up gradient to affect the subject area.

The ISA focused on sites where hazardous materials contamination has been reported that are: 1) under active regulatory oversight; and 2) within one-eighth mile of the existing and proposed highway right-of-way within the project area. The sites that meet these criteria are listed in Table 2.8 below and shown on Figure 2.3. Conditions at these sites are summarized below:

*Site #1 – 700 Coast Highway – Calera Creek Waste Water Treatment Plant (WWTP)*: Site #1, the WWTP is listed on the Leaking Underground Storage Tank (LUST) database as a closed case. Other database listings indicate that this site uses and stores hazardous materials and generates hazardous waste.

The SMCDEH file contained several reports pertaining to the removal of a 550 gallon UST in 1997 and subsequent soil and ground water studies. The Underground Storage Tank (UST) is shown to have been located several hundred feet west of SR 1. The extent of petroleum hydrocarbon affected soil and ground water near the UST is limited and not likely to have extended onto the project site. A case closure letter was issued by the SMCDEH in 2000 indicating that no further action was required.




HAZARDOUS MATERIALS & WASTE CONTAMINATION SITES FIGURE 2.3

**TABLE 2.8**
**NEARBY HAZARDOUS MATERIALS/WASTE CONTAMINATION SITES**

| Location | Site Name | Site Address | Status |
|---|---|---|---|
| 1 | Calera Creek Waste Water Treatment Plant (WWTP) | 700 Coast Hwy. | Listed as a closed LUST case. Other database listings indicate that this site uses and stores hazardous materials. |
| 2 | Joe's Auto Body | 2085 Coast Hwy. | Listed as a closed LUST case. Other database listings indicate that this site uses and stores hazardous materials. |
| 3 | Pacifica Alliance (former Vallemar Beacon) | 2095 Coast Hwy. | Listed as an open LUST case with petroleum hydrocarbon concentrations remaining in soil and ground water. Ongoing semi-annual ground water monitoring is being performed under SMCDEH oversight. |
| 4 | Vallemar Station & Restaurant | 2125 Cabrillo Hwy. | Listed in Pacifica Building Department and SMCDEH files. This property is a historic landmark. Dust and weed suppression chemicals, such as waste oil, may have been sprayed along the railroad line. |
| 5 | Chevron | 4115 Highway 1 | Listed on the LUST database as a closed case. |
| 6 | Caltrans Right-of-Way (former Union Oil Station) | 4460 Cabrillo Hwy. | Listed on the LUST database. Residual petroleum hydrocarbon concentrations remain in soil and ground water, reportedly from two 6,000-gallon USTs removed in 1988. In October 2008, the SMCDEH indicated that the case may qualify for closure if results of the 3rd Quarter 2008 ground water monitoring event are similar to historic findings. |
| 7 | Shell Station | 4475 Coast Hwy. | Listed on the LUST database as a closed case. Residual petroleum hydrocarbon concentrations remain in soil and ground water. |

**Notes**
Site locations are shown on Figure 2.3.
**Source:** Cornerstone Earth Group. Highway 1/Calera Parkway Project Initial Site Assessment. January 2009.

*Site #2 – 2085 Coast Highway – Joe's Auto Body*: Site #2, Joe's Auto Body, is listed on the LUST database as a closed case. Other database listings indicate that this site uses and stores hazardous materials.

The SMCDEH LUST case file contained reports pertaining to the removal of a 1,000 gallon UST in 1988 and subsequent soils and ground water quality studies. During the UST removal, two soil samples and one ground water sample were collected and analyzed for total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethyl benzene, and xylenes (BTEX). No TPHg or BTEX were detected in the soil. TPHg was detected in the ground water at a concentration of 320 parts per billion (ppb). Toluene, ethyl benzene, and xylenes also were detected in ground water at

concentrations of 15, 0.54, and 9.1 ppb, respectively. A ground water monitoring well subsequently was installed at the UST location (ground water depth reported at approximately 2.5 feet). Analyses of ground water samples collected over three consecutive quarterly sampling events did not detect TPHg or BTEX compounds. A case closure letter was issued by the SMCDEH in 1991 indicating that no further action was required. The former UST was located approximately 100 feet to the southwest of SR 1.

*Site #3 – 2095 Coast Highway - Alliance Service Station:* Site #3, the Alliance Service Station (former Vallemar Beacon), is listed in several databases for soil and ground water quality studies that were performed in connection with the removal of four gasoline USTs and a waste oil UST in 1989, and the removal of hydraulic lifts and another waste oil UST in 1998.

The soil and ground water quality investigations consisted of drilling several soil borings and installing six ground water monitoring wells. Based on analytical data, petroleum hydrocarbon concentrations remaining in soil on this property include total petroleum hydrocarbons as diesel (TPHd), TPHg, BTEX and methyl tertiary butyl ether (MTBE) at concentrations up to 2,340, 890, 3.2, 5.6, 15, 110 and 1.1 parts per million (ppm), respectively. The highest concentrations were generally reported in soil samples collected from depths of five feet or less.

The most recent available ground water sampling data (from March 2008) indicates that TPHg, benzene, ethylbenzene, and MTBE remain in ground water at concentrations up to 8,200, 230, 17 and 260 ppb, respectively. Ground water depths of less than approximately five feet and a westerly ground water flow direction were reported. The affected ground water appears to have migrated westerly from the service station and extends beneath SR 1. Ongoing semi-annual ground water monitoring is reportedly being performed under SMCDEH oversight.

Caltrans reportedly purchased this property in 1987. Impacted materials have been reported within existing Caltrans right-of-way located to the northwest of the service station.

*Site #4 – 2125 Cabrillo Highway – Vallemar Station*: This property, which includes the Vallemar Station and restaurant, is listed in the Pacifica Building Department and SMCDEH files as a historic landmark (refer to Section *2.8 Cultural Resources* of this report). The existing restaurant was to have been a former Ocean Shore Railroad Station that opened in 1907 and closed in 1924. The Ocean Shore Railroad was intended to be built from San Francisco to Santa Cruz, via a route along the coastline. Construction began in 1905 at both ends, however, the line was never completed. Dust and weed suppression chemicals, such as waste oil, may have been sprayed along railroad line.

Subsequent uses were noted to include a residence, gifts shop, and restaurant. A railroad caboose and rail car were added to the property in 1986.

*Site #5 – 4115 Highway 1 – Chevron*: This property is listed on the LUST database as a closed case. The SMCDEH LUST case file contained several reports and other correspondence pertaining to the removal of three 10,000 gallon USTs in 1987 and subsequent ground water quality studies. The USTs were shown to have been located approximately 50 feet to the southwest of SR 1. At the time of removal, the USTs were reported to be six years old, and no odors or staining of soil were noted

during the removal. Ground water was encountered at a depth of two feet during the UST removal work. Three ground water monitoring wells were subsequently installed. The wells were sampled six times between 1987 and 1990. Analyses of the ground water samples did not detect TPHg or BTEX compounds. A northwesterly ground water flow direction was reported. A case closure letter was issued by the California Regional Water Quality Control Board (CRWQCB) in 1990 indicating that no further action was required.

*Site #6 – 4460 Cabrillo Highway – Caltrans Right-of-Way:* This property, a former Union Oil Company (Unocal) Station, is listed as an open SMCDEH leaking underground storage tank (LUST) file related to the 1988 removal of two 6,000-gallon USTs from the property. In addition to the service station, an auto body shop was reportedly located on the property. In 1987, the property was purchased by Caltrans for the planned widening of SR 1.

Soil and ground water quality investigations completed between 1991 and 2008 consisted of several soil borings and the installation of 12 ground water monitoring wells. Three of the wells have subsequently been removed under permit from the SMCDEH and, sometime between December 1993 and December 1996, three other wells were lost. In April 2005, the SMCDEH directed Caltrans to locate the missing wells and, in 2006, Unocal was directed to commence periodic sampling of the ground water. No sampling or other activity had taken place since 1999.

Based on a February 2008 report, residual petroleum hydrocarbon concentrations remain in soil on the property, with the highest concentrations reported at depths between 10 and 20 feet. The most recent available ground water data reported in June 2008 indicates that residual petroleum hydrocarbons also remain in ground water. Ground water has been generally encountered at a depth of approximately 16 feet, with a northwesterly flow direction.

In an October 6, 2008 letter, the SMCDEH indicated that the case may qualify for closure and requested that a case closure summary be prepared if the results of the current ground water monitoring are similar to historical findings.

*Site #7 – 4475 Coast Highway – Shell Service Station*: is listed on the LUST database as a closed case. Other database listings indicate that this site uses and stores hazardous materials.

The database contained a case closure letter dated December 10, 2004 from the SMCDEH and an associated case closure summary. The closure summary indicates that a gasoline release occurred on the property. The cause of the release is listed as "unknown." To evaluate soil and ground water quality, four soil borings appear to have been drilled on the property; two of the borings were converted into ground water monitoring wells. Soil samples also appear to have been collected near each of four fuel dispensers. Analytical results indicate that TPHg, BTEX and MTBE remain in soil on the property at concentrations up to 1,500, 2.6, 78, 28, 150 and 54 ppm, respectively. TPHg, ethylbenzene, xylenes, and MTBE are indicated to remain in ground water at concentrations up to 690, 8.1, 1.8 and 27 ppb, respectively. A north-northwesterly ground water flow direction was reported. The highest measured ground water depth was reported to be approximately nine feet below ground surface.

### *2.13.2.2 Aerially-Deposited Lead (ADL)*

Until 1996, lead was commonly added to gasoline.[31] As a result, lead was emitted as a component of motor vehicle exhaust. Soil sampling along many roadways has found that concentrations of lead exceed applicable thresholds for classification as a hazardous material. This phenomenon known as "aerially-deposited lead" is widespread. Because SR 1 was built prior to the phaseout of lead as a gasoline additive, elevated concentrations of lead are likely to be present in the soil along the highway.

### *2.13.2.3 Naturally Occurring Asbestos*

Asbestos[32] occurs naturally in ultramafic rock, such as serpentinite. When this material is disturbed in connection with construction or grading, asbestos-containing dust can be generated. Exposure to airborne asbestos fibers can result in health ailments, including respiratory disease and lung cancer.

Based on a review of the geologic maps, there are extensive outcrops of Franciscan Melange (also called "sheared rock" or "fsr") near the south end of the SR 1 project segment. The sheared rock unit can contain blocks of serpentinite. Additionally, there is a man-made embankment placed in the early1960s within the project alignment along the west side of SR 1, north and south of the Reina Del Mar Avenue intersection. The source of the embankment materials is reportedly from construction of the SR 1 highway to the north. Since details regarding the source and quality of the fill material are not known, there is a potential that the materials could contain contaminants and/or asbestos.

### *2.13.2.4 Asbestos Containing Building Materials*

The buildings located on parcels at 4408 and 4430 Highway 1 are within the project right-of-way and, due to the age of the structures, asbestos-containing materials may be present. This material can be harmful, if it becomes airborne through demolition activities.

### *2.13.2.5 Ground Water Monitoring Wells*

Several ground water monitoring wells were observed on the 4460 Highway 1 parcel. A monitoring well also was observed within Caltrans right-of-way to the northwest of the Alliance gasoline service station located at 2095 Highway 1.

[31] Lead is a heavy metal that is found in many products. Lead is poisonous to humans. It is especially toxic to the nervous system, although it can adversely affect many systems and organs. Lead has been removed from certain products, such as paint and gasoline, in order to reduce the potential for chronic exposure.

[32] Asbestos is a mineral that occurs naturally and is found in many products because of its resistance to damage from chemicals and heat, as well as its noise absorption properties. However, asbestos is toxic, especially when inhaled. It can cause diseases such as lung cancer, mesothelioma, and asbestosis.

#### *2.13.2.6 Man-Made Embankment*

A man-made embankment was placed in the early 1960s along the west side of SR 1, extending to the north and south of the Reina Del Mar Avenue intersection. The embankment material was reportedly obtained from a highway construction project to the north. From at least 2001 until recently, a plant nursery was located on top of a portion of the fill material. Remnants of the nursery are currently present in this area.

### 2.13.3 Environmental Consequences

Based on the information described above in Section *2.13.2 Affected Environment*, fuel leak incidents have been reported on and near the project SR 1 alignment that have resulted in residual petroleum hydrocarbon concentrations in soil and ground water. Fuel leak incidents reported at 4460 Cabrillo Highway (former Union Oil Station) within the project alignment and 2095 Coast Highway (currently active Alliance Station) located near the project have affected soil and/or ground water quality in areas where earthwork activities associated with the planned highway improvements are proposed. Materials likely used in soils at the Vallemar Station property could still be present in soils at this location.

In addition, soil with elevated concentrations of lead is likely to be present. An embankment consisting of unknown fill materials is present within the project limits, and naturally-occurring asbestos may be present in rock within the project alignment. Lastly, structures located within the project alignment presumably will be demolished that may include asbestos-containing materials. Construction of either of the proposed Build Alternatives, therefore, may result in hazardous materials effects because the presence of contamination could expose construction workers to those substances in concentrations that exceed regulatory thresholds.

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

The following avoidance and minimization measures, which are included in the project, will reduce hazardous materials and waste effects:

#### *2.13.4.1 Reported On-Site and Nearby Contamination Incidents*

**AM-HAZ-1.1:** *Site Management Plan*. Prior to initiation of the project, a soil and ground water management plan shall be developed to establish management practices for the appropriate management and disposal of affected soils and materials, if encountered. As a precautionary measure and to help limit potential construction delays, the site management plan shall also establish procedures for the management and handling of buried structures or affected materials that currently are unknown or unanticipated. A health and safety plan shall also be prepared to provide general guidance to the work hazards that may be encountered during construction activities in these areas.

**AM-HAZ-1.2:** *Soil Investigation*. Prior to project development, a soils investigation shall be completed in areas of probable or suspect contamination to determine if petroleum hydrocarbons have affected soils that will be excavated as part of the proposed project. Samples shall be collected at depths up to the planned depth of excavation. The analytical results shall be compared against acceptable regulatory standards and applicable hazardous waste criteria. Based on analytical results, the investigation will provide recommendations regarding management and disposal of affected soil in the project area.

**AM-HAZ-1.3:** *Ground Water Investigation*. Prior to project development, a ground water investigation shall be completed in areas of probable or suspect contamination to determine if petroleum hydrocarbons have affected ground water that will be encountered as part of the proposed project excavation. Samples shall be collected at depths up to the planned depth of excavation. The analytical results shall be compared against applicable hazardous waste criteria. Based on analytical results, the investigation will provide recommendations regarding management and disposal of affected ground water. In addition, ground water depths will be determined in areas that may be proposed to receive lead-affected soils. Under the DTSC variance for lead-affected soil, soil affected with ADL can be reused as construction fill provided that it is placed at least five feet above maximum ground water level. If dewatering is anticipated by the proposed project, the investigation report will provide recommendations regarding proper treatment, if necessary, and disposal or reuse of affected ground water.

#### *2.13.4.2 Aerially-Deposited Lead (ADL)*

**AM-HAZ-1.4:** Prior to project development, a soil investigation shall be completed to determine whether ADL has affected soils that will be excavated as part of the proposed project. The investigation for ADL shall be performed in accordance with the Department's *Lead Testing Guidance Procedure* (dated March 16, 2001). The analytical results will be compared against applicable hazardous waste criteria. Based on analytical results, the investigation will provide recommendations regarding management and disposal of affected soils in the project area including the reuse potential of ADL-affected soil during project development. The provisions of a variance granted to the Department by the California Department of Toxic Substances Control (DTSC) on September 22, 2000 (or any subsequent variance in effect when the project is constructed) regarding aerially-deposited lead shall be followed.

### *2.13.4.3 Naturally-Occurring Asbestos*

**AM-HAZ-1.5:** A Registered Geologist shall perform a site visit prior to project initiation to observe and map outcrops that may contain serpentinite or ultramafic rock along the southern project alignment. If serpentinite or ultramafic rocks (rock that may contain naturally occurring asbestos) are present, the Asbestos Airborne Toxic Control Measure and Bay Area Air Quality Management District (BAAQMD) guidance shall be followed.

**AM-HAZ-1.6:** Soil sampling for asbestos shall be completed along the southern end of the alignment, as well as the within the man-made embankment on the west side of SR 1, north and south of the Reina Del Mar Avenue intersection. If serpentinite or ultramafic rock is present and/or naturally occurring asbestos is detected or observed at the project site, the Asbestos Airborne Toxic Control Measure for grading projects that disturb one acre or less, requires specific actions to minimize dust emissions, such as vehicle speed limitations, application of water prior to and during ground disturbance, keeping storage piles wet or covered, and track out prevention and removal. If the project will disturb more than one acre, BAAQMD approval of an asbestos dust abatement plan is required. The plan will specify how the operation will minimize emissions and will address emissions sources. Regardless of the size of disturbance, activities must not result in emissions that are visible.

### *2.13.4.4 Asbestos-Containing Building Materials*

**AM-HAZ-1.7:** Asbestos-containing material surveys shall be completed following National Emissions Standards for Hazardous Air Pollutants (NESHAP) guidelines at any structure proposed for demolition during project development that is known or suspected to have been constructed prior to 1990. NESHAP guidelines require the removal of potentially friable asbestos-containing materials prior to building demolition. Identified asbestos-containing materials will be abated and disposed of in accordance with applicable abatement, worker health and safety, and hazardous waste regulations.

### *2.13.4.5 Ground Water Monitoring Wells*

**AM-HAZ-1.8:** A survey of existing monitoring wells in the project area shall be performed prior to project initiation. Wells that will be affected by the proposed project shall be properly abandoned and/or relocated; this work should be coordinated with the San Mateo County Department of Environmental Health.

### *2.13.4.6 Man-Made Embankment*

**AM-HAZ-1.8:** Since details regarding the source and quality of the embankment fill material, which was placed to form the embankment along the western side of SR 1, north and south of the Reina Del Mar intersection, are not known, an evaluation of soil quality (including asbestos content) within the embankment shall be performed prior to initiation of the project. Soil sampling shall be completed within the man-made embankment on the west side of SR 1, north and south of the Reina Del Mar Avenue intersection. Testing of this fill shall include contaminants, such as pesticides and metals, in additional to asbestos.

## 2.14 AIR QUALITY

The information in this section is based primarily on an *Air Quality Report* that was prepared for the project in November 2009 and an addendum to the *Air Quality Report* prepared in June 2010. Copies of the *Air Quality Report* and the addendum are available for review at the locations listed inside the front cover of this document.

### 2.14.1 Regulatory Setting

The Federal Clean Air Act (FCAA) as amended in 1990 is the federal law that governs air quality. The California Clean Air Act of 1988 is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and State ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns. The criteria pollutants are: carbon monoxide (CO), nitrogen dioxide ($NO_2$), ozone ($O_3$), particulate matter (PM, broken down for regulatory purposes into particles of 10 micrometers or smaller – $PM_{10}$ and particles of 2.5 micrometers and smaller – $PM_{2.5}$), lead (Pb), and sulfur dioxide ($SO_2$). In addition, State standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H2S), and vinyl chloride. The NAAQS and State standards are set at a level that protects public health with a margin of safety, and are subject to periodic review and revision. Both State and Federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics within their general definition.

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

FCAA Section 176(c) prohibits the U.S. Department of Transportation and other Federal agencies from funding, authorizing, or approving plans, programs or projects that are not first found to conform to State Implementation Plan (SIP) for achieving the goals of Clean Air Act requirements related to the NAAQS. "Transportation Conformity" takes place on two levels: the regional, or planning and programming, level, and the project level. The proposed project must conform at both levels to be approved. Conformity requirements apply only in nonattainment and "maintenance" (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 CFR 93 govern the conformity process.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the standards set for carbon monoxide (CO), nitrogen dioxide (NO2), ozone (O3), particulate matter (PM10 and PM2.5), and in some areas sulfur dioxide (SO2). California has attainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO2, and also has a nonattainment area for lead (Pb). However, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all of the transportation projects planned for a region over a period of at least 20 years (for the RTP), and 4 years (for the FTIP). RTP and FTIP conformity is based on use of travel

demand and air quality models to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that requirements of the Clean Air Act and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), and the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the Clean Air Act. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept, scope, and "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and the FTIP, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires "hot spot" analysis if an area is "nonattainment" or "maintenance" for carbon monoxide (CO) and/or particulate matter ($PM_{10}$ or $PM_{2.5}$). A region is "nonattainment" if one or more of the monitoring stations in the region measures violation of the relevant standard, and U.S. EPA officially designates the area nonattainment. Areas that were previously designated as nonattainment areas but subsequently meet the standard may be officially redesignated to attainment by U.S. EPA, and are then called "maintenance" areas. "Hot spot" analysis is essentially the same, for technical purposes, as CO or particulate matter analysis performed for NEPA purposes. Conformity does include some specific procedural and documentation standards for projects that require a "hot spot" analysis. In general, projects must not cause the "hot spot"-related standard to be violated, and must not cause any increase in the number and severity of violations in nonattainment areas. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

On December 14, 2009, the Environmental Protection Agency (EPA) designated the nine-county San Francisco Bay Area as nonattainment for the national 24-hour $PM_{2.5}$ standards established in 2006. Beginning December 14, 2010, sponsors of certain projects that involve significant amounts of diesel vehicle traffic are required to complete a $PM_{2.5}$ hot-spot analysis for project-level conformity determinations made by the Federal Highway Administration (FHWA) or Federal Transit Administration (FTA). For projects subject to this requirement, a determination must be made about whether the project is a Project of Air Quality Concern (POAQC) as defined by 40 CFR 93.123(b)(1). The Metropolitan Transportation Commission (MTC) facilitates the interagency consultation for $PM_{2.5}$ hot-spot analyses through the Air Quality Conformity Task Force. The agencies involved in the interagency consultation process for the Bay Area include the project sponsor, EPA, FHWA, FTA, Caltrans, MTC, and other local transportation and air quality agencies that participate in the Conformity Task Force.

### 2.14.2 Affected Environment

The project lies within the Bay Area Air Quality Management District (BAAQMD), which includes Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara and Napa counties, southwestern Solano County, and southern Sonoma County. The project is located on the base of the Santa Cruz Mountains in the Peninsula sub air basin. This location on the Pacific Ocean coastline results in cool weather year-round, with warm summer temperatures in the mid 60s, and winters are cold and wet. Wind direction is predominantly from the northwest with wind speeds often over 10 miles per hour.

Air quality in the project area is typically good, and the buildup of air pollution is not usually a concern. The project area is sparsely developed with low density and a few industrial sources of pollution. Pacifica is exposed to sufficient ocean winds that disperse cool air into the area preventing inversion layers from forming.

#### *2.14.2.1 Air Quality Monitoring*

The San Francisco Bay Area is considered to be one of the cleanest metropolitan areas in the country with respect to air quality. However, the Bay Area as a whole does not meet state or federal ambient air quality standards for ground level ozone and state standards for $PM_{10}$ and $PM_{2.5}$. For all other pollutants, the area complies with federal and state air quality standards.

The BAAQMD operates a network of air quality monitoring stations that measure the concentration of ozone, CO, $PM_{10}$ and $NO_x$ air pollutants. The nearest monitoring station to the project area is in Redwood City, approximately 20 miles to the southeast. Air quality in Pacifica is typically cleaner than in Redwood City due to the coastal location and lack of nearby or upland sources.

#### *2.14.2.2 Mobile Source Air Toxics*

Mobile source air toxics (MSATs) are emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as by-products. Metal air toxics result from engine wear or from impurities in oil or gasoline.

The U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) have identified seven priority MSATs. CARB has found that diesel PM contributes over 70 percent of the known risk from air toxics and poses the greatest cancer risks among all identified air toxics. Diesel trucks contribute more than half of the total diesel combustion sources. The CARB has adopted a Diesel Risk Reduction Plan with control measures that would reduce the overall diesel PM emissions by about 85 percent from 2000 to 2020.

### 2.14.3 Environmental Consequences

The short-term (i.e., construction phase) air quality effects of the proposed project are described in Section *2.22 Construction Impacts*. The project's long-term (i.e., operational phase) effects are described below.

#### *2.14.3.1 Clean Air Act Conformity*

Section 176(c) of the Clean Air Act Amendments (CAAA) require that regionally significant, federally funded or approved transportation plans, programs, and projects conform to the State Implementation Plan, which contains the controls necessary for the state to meet the National Ambient Air Quality Standards. The EPA promulgated 40 CFR Parts 50 and 93 to implement Section 176 (c) of the CAAA. The Metropolitan Transportation Commission (MTC) RTP is a federally approved transportation plan that conforms to the State Implementation Plan.

The project study area is located in an air basin classified by the U.S. EPA as "marginally non-attainment" under the eight-hour NAAQS for ground-level ozone. The area is classified by U.S. EPA as "attainment/maintenance" under the NAAQS for CO. The proposed project is included in MTC's 2035 RTP (Appendix 1, Reference number 98204) which was approved in April 2009. The project is also included in the 2011 Transportation Improvement Program (TIP) (TIP ID: SM-050001). The 2011 TIP was found to conform by FHWA and the Federal Transit Administration (FTA) in December 2010. The design concept and scope of the project is consistent with the project description in the RTP and TIP and the assumptions in MTC's regional emissions analysis.

Based on the interagency consultation with the Air Quality Conformity Task force in April 2011, this project does not fit the definition of a project of air quality concern as defined by 40 CFR 93.126(b)(1) or 40 CFR 93.128, and therefore is not subject to the $PM_{2.5}$ project level conformity requirement. The determination by MTC was reported in the Draft EIR/EA and public comment was requested regarding the project-level conformity analysis and determination. None of the comments received on the Draft EIR/EA were related to the air quality conformity determination. The air quality conformity report was subsequently submitted to FHWA for their review and concurrence. FHWA concurrence was received in a letter dated June 2, 2011, a copy of which is reproduced in Appendix E.

The CARB has determined that the MTC RTP emission projections are consistent with the region's emissions budget. The project design and scope for either Build Alternative evaluated in this analysis were included in the RTP that was found to conform to the SIP. Hot-spot modeling of CO concentrations from project traffic indicate that CO concentrations attributable to the proposed project would not increase the number or severity of exceedances of the National Ambient Air Quality Standards. Under 40 CFR Part 93, the proposed project is found to be in conformance with the State Implementation Plan.

#### *2.14.3.2 Traffic-Related Carbon Monoxide (CO) Impacts*

Project impacts from local traffic were evaluated by modeling roadside carbon monoxide concentrations. The modeling was completed for intersections on SR 1 where there would be a combination of the highest traffic volumes, greatest project traffic contribution, and the highest levels of congestion. Congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of carbon monoxide. Of the two standards for carbon monoxide, the eight-hour standard is more stringent and therefore, was used for this analysis. The intersection of SR 1/Reina Del Mar Avenue has the highest volumes of traffic for both the existing and the future with project conditions; therefore this intersection was evaluated as a worst-case scenario. In addition, the intersection of SR 1/Fassler Avenue/Rockaway Beach Avenue was also modeled to accurately depict project impacts. The results of the modeling analysis are shown in Table 2.9.

The modeling assumptions are used to predict the worst-case carbon monoxide concentrations that could be associated with the project. Modeled concentrations were added to background levels to predict total carbon monoxide concentrations. Background CO levels were determined using BAAQMD monitoring data. The 2005 background CO levels in Pacifica were assumed to be equal to 2.5 ppm (eight-hour) and 5.0 ppm (one-hour). This assessment was completed for existing conditions in 2008 and future build conditions in 2015 and 2035.

**TABLE 2.9**
**CARBON MONOXIDE MODELING RESULTS**
**(Expressed in parts-per-million)**

| | Reina del Mar Avenue and SR 1 | Fassler Avenue and SR 1 |
|---|---|---|
| **1-Hour Concentration (Standard = 20 parts-per-million)** | | |
| **2005 - Existing** | 8.8 | 8.0 |
| **2015 - Project** | 6.6 | 6.7 |
| **2035 - Project** | 5.7 | 5.8 |
| **8-Hour Concentration (Standard = 9 parts-per-million)** | | |
| **2005 - Existing** | 5.8 | 5.5 |
| **2015 - Project** | 4.1 | 4.2 |
| **2035 - Project** | 3.2 | 3.3 |

The results indicate that current carbon monoxide concentrations are below ambient air quality standards and that future levels with the project at year 2015 and year 2035 would remain below the standards. The predicted decrease in future levels is due to vehicle fleet turnover, with newer (less polluting) vehicles replacing older vehicles. Since carbon monoxide levels associated with the project would not exceed ambient air quality standards, the impact would not be substantial. It should be noted that improving the operations of this portion of SR 1 would reduce congestion and vehicle idling, which would slightly reduce air emissions from vehicles traveling through the site.

#### *2.14.3.3 Mobile Source Air Toxics Impacts*

The purpose of this project is to improve traffic operations by constructing one additional travel lane in each direction and adding left turn lanes. The two Build Alternatives would not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing highway facility, or any other factor that would cause an increase in emissions impacts relative to the No-Build Alternative. As such, FHWA has determined that this project would generate minimal air quality impacts for Clean Air Act criteria pollutants and would not be linked with any special Mobile Source Air Toxics (MSAT) concerns. Consequently, this project is exempt from analysis for MSATs.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSATs to decline significantly over the next 20 years. Even after accounting for a 64 percent increase in VMT, FHWA predicts MSATs will decline in the range of 57 percent to 87 percent from 2000 to 2020, based on regulations now in effect. This will both reduce the background level of MSATs a well as the possibility of even minor MSAT emissions from this project.

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

No avoidance, minimization, or mitigation measures are proposed.

### 2.14.5 Climate Change

Climate change is analyzed in Chapter 3. Neither U.S. EPA nor FHWA has promulgated explicit guidance or methodology to conduct project-level greenhouse gas analysis. As stated on FHWA's climate change website (http://www.fhwa.dot.gov/hep/climate/index.htm), climate change considerations should be integrated throughout the transportation decision-making process – from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

Because there have been more requirements set forth in California legislation and executive orders regarding climate change, the issue is addressed in the CEQA chapter of this environmental document and may be used to inform the NEPA decision. The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the state has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours travelled.

# 2.15 NOISE

The information in this section is based primarily on a technical *Noise Study Report* that was prepared for the project in October 2009 and an addendum to that study in June 2010. The *Noise Study Report* and addendum are incorporated into this EIR/EA by reference and are available for review at the locations listed inside the front cover of this document.

## 2.15.1 Introduction and Regulatory Setting

### *2.15.1.1 Introduction*

Noise is measured in "decibels" (dB), which is a numerical expression of sound levels on a logarithmic scale. A noise level that is ten dB higher than another noise level has ten times as much sound energy and is perceived as being twice as loud. A sound change of less than three dB is just barely perceptible only in the absence of other sounds. Intense sounds of 140 dB are so loud that they are painful and can cause damage with only brief exposure. These extremes are not commonplace in our normal working and living environments. An "A-weighted decibel" (dBA) approximates the frequency response of the average young ear when listening to most ordinary everyday sounds. Thus, traffic noise impact analyses commonly use the dBA.

With regard to traffic-generated noise, noise levels rise as vehicle speeds, overall volumes, and truck volumes increase. In general, a doubling of traffic results in a three dBA increase in noise at a nearby receptor, assuming a relatively homogeneous traffic composition (i.e., mainly passenger cars). The peak noise hour is typically not the peak commute hour due to lower operating speeds during the latter. The combination of volumes and speeds that produces the peak noise hour is that which is associated with level of service C/D.

### 2.15.1.2 *Regulatory Setting*

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

*California Environmental Quality Act*

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless such measures are not feasible. The rest of this section will focus on the NEPA-23 CFR 772 noise analysis; please see Chapter 3 of this document for further information on noise analysis under CEQA.

*National Environmental Policy Act*

For highway transportation projects with FHWA (and Caltrans, as assigned) involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise

impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations contain noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). Table 2.10 lists the NAC for use in the NEPA-23 CFR 772 analysis.

**TABLE 2.10**
**NOISE ABATEMENT CRITERIA OF THE FEDERAL HIGHWAY ADMINISTRATION**
**(Expressed in dBA)**

| Activity Category | NAC, Hourly A-Weighted Noise Level, dBA Leq(h)[1] | Description of Activities |
|---|---|---|
| **A** | 57 (Exterior) | Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. |
| **B** | 67 (Exterior) | Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals. |
| **C** | 72 (Exterior) | Developed lands, properties, or activities not included in Categories A or B above. |
| **D** | --- | Undeveloped lands. |
| **E** | 52 (Interior) | Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums. |

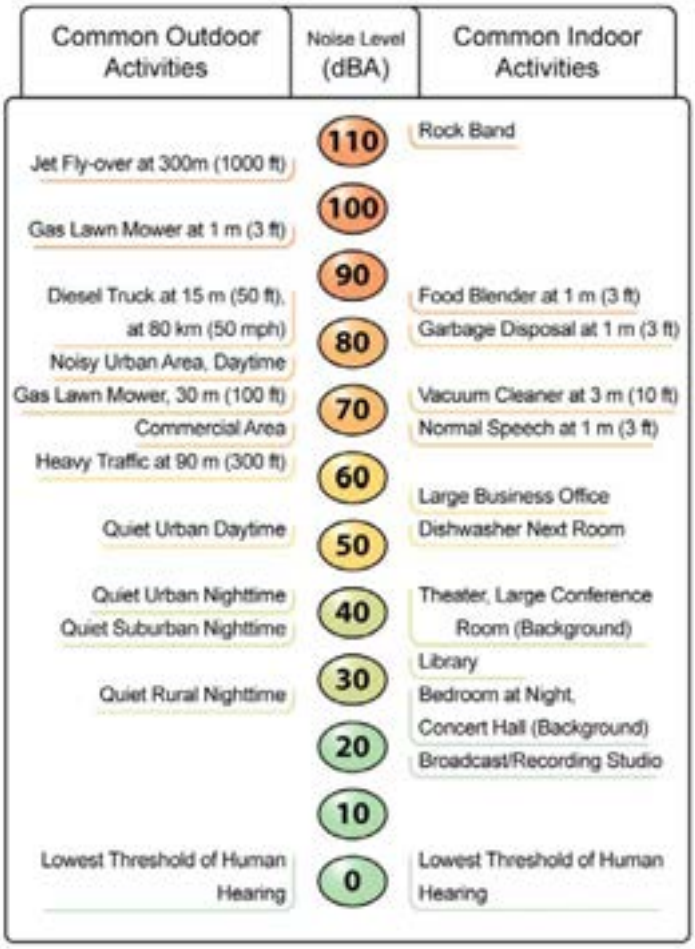
[1]Leq(h) is a measurement of the average energy level intensity of noise during the peak hour noise period. "Leq" stands for the Noise Equivalent Level.

Table 2.11 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise-levels discussed in this section with common activities.

In accordance with the Department's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects* (August 2006), a noise impact occurs when the future noise level with the project results in a substantial increase in noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the NAC. Approaching the NAC is defined as coming within one (1) dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

**TABLE 2.11**
**NOISE LEVELS ASSOCIATED WITH COMMON ACTIVITIES**




The Department's *Traffic Noise Analysis Protocol* (TNAP) sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum five dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance, the absolute noise level, build versus existing noise, environmental impacts of abatement, public and local agencies input, newly constructed development versus development pre-dating 1978 and the cost-per-benefited-residence.

### 2.15.2 Affected Environment

The existing noise environment throughout the project corridor varies by location, depending on specific site characteristics such as proximity to SR 1 and other local noise sources (e.g., frontage roads); the relative elevations of the highway, terrain, and receivers; and the presence of intervening structures. Existing noise levels were quantified by four short-term and two long-term noise measurements at locations throughout the study area that were representative of Category B receivers along the project alignment (see Figure 2.4). These locations were chosen to represent noise levels at Category B outdoor activity areas that would potentially benefit from a lower noise level.

Existing loudest-hour noise levels ranged from about 60 dBA Leq(h) at well-shielded Category B land uses to approximately 77 dBA Leq(h) at unshielded outdoor activity areas nearest SR 1, as shown on Table 2.12 and Table 2.13. Currently, there are no existing soundwalls near SR 1 within the project limits.

**TABLE 2.12**
**SUMMARY OF LONG-TERM NOISE MEASURMENT RESULTS**

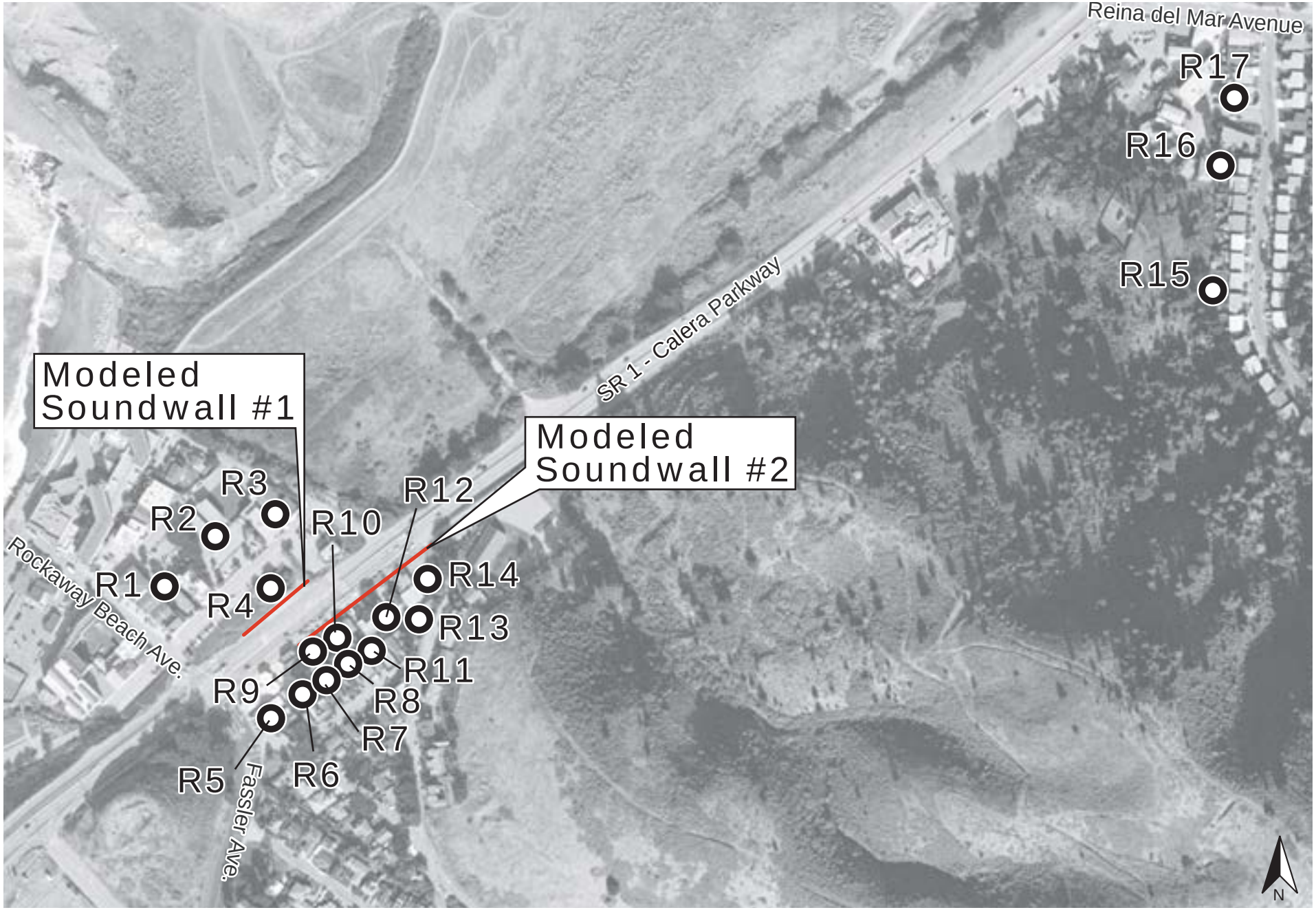
| Receiver ID | Location | Date | Time | Loudest Hour (Leq dBA) |
|---|---|---|---|---|
| LT-1 | Southeast Corner of Reina Del Mar Avenue and State Route 1 | 1/9/09 | 11:30 PM | 76 |
| LT-2 | West Side of State Route 1 north of Rockaway Beach Avenue | 1/9/09 | 11:30 PM | 77 |

Source: Highway 1/Calera Parkway Project Noise Study Report, October 2009

**TABLE 2.13**
**SUMMARY OF SHORT-TERM NOISE MEASURMENT RESULTS**

| Receiver ID | Location | Date | Time | 10-min Leq (dBA) | Loudest Hour (Leq dBA) |
|---|---|---|---|---|---|
| ST-1 | In front of Holiday Inn at Rockaway Beach Avenue | 1/12/09 | 12:30 | 62.5 | 65 |
| | | | 12:40 | 62.9 | |
| ST-2 | In front of 451 Harvey Way | 1/12/09 | 12:10 | 71.3 | 72 |
| | | | 12:20 | 70.4 | |
| ST-3 | Near 446 Old Country Road | 1/12/09 | 12:10 | 61.8 | 63 |
| | | | 12:20 | 60.8 | |
| ST-4 | Near backyard of residences on Franz Court | 1/12/09 | 1:00 | 58.0 | 60 |
| | | | 1:10 | 58.5 | |

Source: Highway 1/Calera Parkway Project Noise Study Report, October 2009




NOISE RECEPTOR AND POTENTIAL BARRIER LOCATIONS

FIGURE 2.4

### 2.15.3 Environmental Consequences

The short-term (i.e., construction phase) noise effects of the proposed project are described in Section *2.22 Construction Impacts*. The project's long-term (i.e., operational phase) effects are described below.

Future traffic-related noise levels at land uses adjacent to SR 1 within the project area were quantified in accordance with FHWA and the Department's procedures (Table 2.14). Projected noise levels were then compared to FHWA's noise abatement criteria shown in Table 2.14 to determine whether the consideration of noise abatement measures was warranted. Projected noise levels were also compared with existing noise levels to determine whether the increase (if any) would be substantial.

Depending upon the location, future peak-hour noise levels under "with project" conditions would remain unchanged from existing levels under either Build Alternative, or would increase by one to two decibels, as shown in Table 2.14. This projected increase in noise levels would not be substantial because the increase would be less than the 12 dB threshold described above.

Projected noise levels would, however, approach or exceed FHWA's noise abatement criteria at four locations, two of which also approach or exceed the criteria under existing conditions.

**TABLE 2.14**
**COMPARISON OF EXISTING AND FUTURE NOISE LEVELS ALONG STATE ROUTE 1**
**(Expressed in Loudest Hour Noise Levels, Leq(h), dBA)**

| Receptor[1] | Land Use[2] | Existing/ No Project Noise Level | Future With Project Noise Level | Change in Noise due to Project | Existing Barrier Shielding? | Noise Level Approach or Exceed NAC?[3] |
|---|---|---|---|---|---|---|
| 1 | SFR | 62 | 65 | +3 | No | No |
| 2 | MFR | 61 | 63 | +2 | No | No |
| 3 | MFR | 60 | 62 | +2 | No | No |
| 4 | SFR | **66** | **68** | +2 | No | **Yes** |
| 5 | SFR | 63 | 64 | +1 | No | No |
| 6 | SFR | 63 | 65 | +2 | No | No |
| 7 | SFR | 63 | 65 | +2 | No | No |
| 8 | SFR | 63 | 65 | +2 | No | No |
| 9 | SFR | **68** | **69** | +1 | No | **Yes** |
| 10 | SFR | 65 | **67** | +2 | No | **Yes** |
| 11 | SFR | 64 | 65 | +1 | No | No |
| 12 | SFR | 63 | 65 | +2 | No | No |

| | | | | | | |
|---|---|---|---|---|---|---|
| 13 | SFR | 63 | 64 | +1 | No | No |
| 14 | SFR | 64 | **66** | +2 | No | **Yes** |
| 15 | SFR | 57 | 59 | +2 | No | No |
| 16 | SFR | 59 | 61 | +2 | No | No |
| 17 | MFR | 58 | 60 | +2 | No | No |

**Notes:**
[1] Receptors are shown on Figure 2.4.
[2] SFR = single-family residential, MFR = multi-family residential.
[3] NAC: noise abatement criteria of FHWA (67 dBA Leq(h))
**Bold** indicates existing or future noise levels approaching or exceeding FHWA noise criteria.

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

Although the project would not result in a substantial increase in traffic-related noise, projected noise levels would, however, approach or exceed FHWA's noise abatement criteria at four locations. Two of these locations will approach or exceed FHWA's noise abatement criteria under existing conditions. As a result, the feasibility and reasonableness allowances of noise abatement soundwalls were considered, as shown in Table 2.15.

Consideration of soundwalls for noise abatement purposes involves several steps:

- Will projected noise levels approach or exceed the Noise Abatement Criteria (NAC) of FHWA? If the answer is "no", soundwalls are not considered. If the answer is "yes", soundwalls are evaluated both as to their feasibility and their reasonableness.
- A soundwall is considered feasible if it is capable of lowering traffic noise by a minimum of five decibels at a sensitive receptor. Soundwalls should also interrupt the line of sight between a truck exhaust stack (of average height) and an adjacent receiver (e.g., residence). If a soundwall is not feasible, no further analysis is undertaken. If a soundwall is feasible, then the next step is the reasonableness evaluation.
- In order to determine whether a proposed soundwall is "reasonable," the total reasonable monetary allowance for that soundwall must be greater than or equal to the cost of the soundwall. The reasonable allowance is calculated using five reasonableness factors, which include:
  - Absolute Noise Levels, which are the predicted future noise levels with the project at each receiver;
  - "Build" Versus Existing Noise Levels, which is the increase in noise levels resulting from the project over existing noise levels at each receiver;
  - Achievable Noise Reduction, which is the noise reduction provided by the proposed noise abatement at each receiver;
  - New Construction or Predate 1978 – if the project is new highway construction, or if the majority of benefited receivers (more than 50 percent) were in existence prior to January 1, 1978 for a highway reconstruction, add $10,000 to the base allowance; and
  - Total Noise Abatement Allowance versus Project Cost. Once the factors are considered, each allotted amount is added to the base amount ($36,000 as of July, 2007), which is adjusted periodically.

The possible locations of these soundwalls are also shown on Figure 2.4. Soundwall 1 was considered to be located along the west side of SR 1, north of Rockaway Beach Avenue. This wall would feasibly abate traffic noise for one single-family house in the area, meaning it could reduce noise levels by a minimum of five decibels. A minimum length of 200 feet and a minimum soundwall height of 12 feet would be required for this wall.

Soundwall 2 was considered to be located along the east side of SR 1, north of Fassler Avenue and would be located at the edge of the roadway shoulder. This wall would feasibly abate traffic noise for up to eleven single-family houses. A minimum length of 400.5 feet and a minimum soundwall height of 12 feet would be required for this wall.

The reasonable allowance calculated (on page 34 of the noise analysis) for Soundwall 1 was determined to be $50,000. The estimated construction costs for Soundwall 1 range from $72,000 to $111,000, depending on the soundwall height configuration. Sound wall 1 would not require additional utility relocations. Therefore, the reasonable allowance cost for Soundwall 1 is not less than the estimated construction costs. Because the total reasonable allowance for Soundwall 1 is not greater than or equal to the cost of the soundwall, this soundwall is not reasonable.

The reasonable allowance for Soundwall 2 ranges from $294,000 to $498,000, depending on the soundwall height configuration. The estimated construction costs for Soundwall 2 range from $235,000 to $348,000, depending on the soundwall height configuration. It is likely that the proposed wall piles required for Soundwall 2 would impact existing utilities. The estimated cost to relocate the existing gas, sewer and water utility lines associated with Soundwall 2 would be approximately $200,000, which is included in the estimated construction costs above. With this amount included in the total estimated construction cost, the reasonable allowance cost for Soundwall 2 is not less than the estimated construction costs. Because the total reasonable allowance for Soundwall 2 is not greater than or equal to the cost of the soundwall, this soundwall is not reasonable.

The feasibility of soundwalls was determined by the five dBA minimum reduction in noise level, as well as overall constructability. The reasonableness allowances for the soundwalls were determined using criteria contained in the TNAP, as described above.

Per the requirements of the Caltrans *Project Development Procedures Manual (*PDPM) for a Noise Abatement Decision Report (NADR), the noise soundwalls were also discussed in the Draft Project Report (July 2011). The Draft Project Report included the NADR, which is an evaluation of the reasonableness and feasibility of incorporating noise abatement measures for the project. The NADR also constitutes the preliminary decision on noise abatement measures and is incorporated into the Draft Environmental Document. The NADR is also required for Caltrans to meet Title 23, Code of Federal Regulation, Part 772 of the Federal Highway Administration standards.

The NADR summarized the results of the Noise Study Report for this project that was prepared by Illingworth & Rodkin in October 2009, as described above. The NADR also included a preliminary noise abatement decision, which stated:

> *"It is recommended that soundwall #1 not be constructed since the estimated construction costs would exceed the total reasonable allowance for every soundwall height configuration, and because this soundwall would benefit only one receiver.*

> *Likewise, it is recommended that sound wall #2 not be constructed since the estimated construction costs would exceed the total reasonable allowance for every sound wall height configuration.*

The NADR also included a discussion of the secondary effects of noise abatement, which stated:

> *"In addition to the cost considerations in the aforementioned Preliminary Noise Abatement Decision, new soundwalls along this section of Highway 1 would not fit into the scenic character of this area. This section of Highway 1 is an Eligible State Scenic Highway, so the construction of walls that block views of the nearby Pacific Ocean and detract from the overall visual quality of this corridor are strongly discouraged unless absolutely necessary."*

The final decision to include soundwalls in the proposed project design must consider reasonableness factors, such as cost-effectiveness, as well as other feasibility considerations, including topography, access requirements, other noise surfaces, safety, and information received during the public review process. Based on the studies completed to date, the Department does not intend to incorporate noise abatement in the form of soundwalls along the project alignment. It is recommended that Soundwall 1 not be constructed since the estimated construction costs would exceed the total reasonable allowance for every soundwall height configuration, and because this soundwall would benefit only one receiver. Assuming utility relocation costs for soundwall #2 would be approximately $200,000, it is recommended that Soundwall 2 not be constructed since the total estimated construction costs would exceed the total reasonable allowance for every soundwall height configuration.[33]

**Final Decision on Soundwalls**

Based on the studies completed to date, the Department does not intend to incorporate noise abatement in the form of soundwalls along the project alignment.

All of this information was reported in the Draft EIR/EA. The Draft EIR/EA stated that the final decision of the noise abatement would be made upon completion of the public involvement process and would be reported in the Final EIR/EA.

The noise abatement decision presented is based on preliminary project alignments and profiles which may be subject to change. As such, the physical characteristics of noise abatement described herein may also be subject to change. If pertinent parameters change substantially during the final project design, the noise abatement decision may be changed or eliminated from the final project design. A final decision to construct noise abatement features will be made during the final project design process. If soundwalls are incorporated during the final design supplemental environmental review will be completed.

[33] Mark Thomas & Company, written communications. July 2011.

**TABLE 2.15**
**EVALUATION OF NOISE ABATEMENT WALLS**

| Soundwall Number and Location | Approx. Soundwall Location | Soundwall Height | Insertion Loss (dBA) | Land Uses Benefiting from 5 dBA Reduction | Total Reasonable Allowance | Estimated Construction Cost | Cost Less than Allowance? |
|---|---|---|---|---|---|---|---|
| #1: Westbound side of SR 1, North of Rockaway Avenue | South-bound State Route 1: 31+50 to 33+50 | 6 | 6 dBA | One single-family residence | $50,000 | 72,000 | No |
| | | 8 | 6 dBA | | | 82,000 | No |
| | | 10 | 7 dBA | | | 92,000 | No |
| | | 12 | 7 dBA | | | 100,000 | No |
| | | 14 | 9 dBA | | | 111,000 | No |
| #2: Eastbound side of SR 1, North of Rockaway Beach Avenue | North-bound State Route 1: 32+00 to 36+50 | 6 | 5 dBA | 7 SF residences | $294,000 | $235,000 | Yes |
| | | 8 | 5-6 dBA | 9 SF residences | $396,000 | $261,000 | Yes |
| | | 10 | 5-6 dBA | 9 SF residences | $400,000 | $290,000 | Yes |
| | | 12 | 5-7 dBA | 11 SF residences | $496,000 | $318,000 | Yes |
| | | 14 | 5-7 dBA | 11 SF residences | $498,000 | $348,000 | Yes |

# BIOLOGICAL ENVIRONMENT

The information in this section is based primarily on a technical *Natural Environment Study* (NES) that was completed for the project in December 2009 and an Addendum to the NES that was completed in December 2010. The *Natural Environment Study* includes a Preliminary Delineation of Wetlands, Other Waters, and Coastal Zone Wetlands and a Draft Biological Assessment. Copies of these studies are available for review at the locations listed inside the front cover of this document.

## 2.16 NATURAL COMMUNITIES

### 2.16.1 Introduction

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

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in Section *2.20 Threatened and Endangered Species.* Wetlands and other waters and coastal zone wetlands are also discussed below in Section *2.17 Wetlands and Other Waters.*

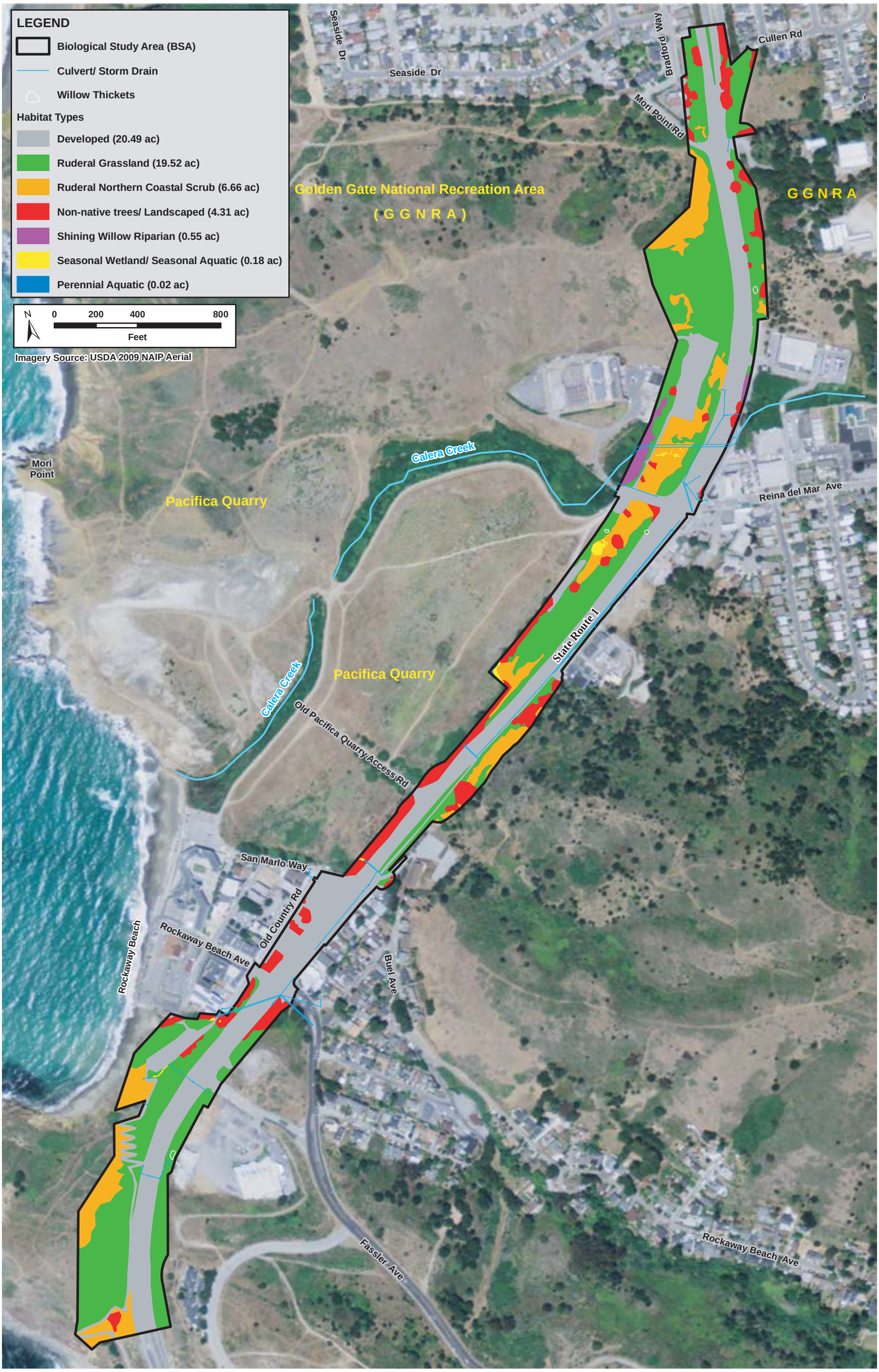
### 2.16.2 Affected Environment

#### *2.16.2.1 Natural Communities*

The following sensitive habitats are listed by the California Natural Diversity Rarefind Database as occurring in the project region:[34] valley needlegrass grassland and northern maritime chaparral. Based on field surveys conducted as a part of the *Natural Environment Study*, neither of these habitats occurs on the project site.

Several sensitive habitats were identified within the Biological Study Area (BSA) surveyed as a part of the *Natural Environment Study*. The BSA consists of the footprint of the project as well as all areas that may be affected directly or indirectly by the construction activity or action.[35] The BSA includes approximately 80 acres. Shining willow riparian forest and perennial aquatic habitat occur within and adjacent to Calera Creek. Isolated seasonal wetland/seasonal aquatic habitat types also occur within the BSA. These habitats are not present within areas that will be directly affected by either project Build Alternative (refer to Figures 2.5, 2.6 and 2.7).

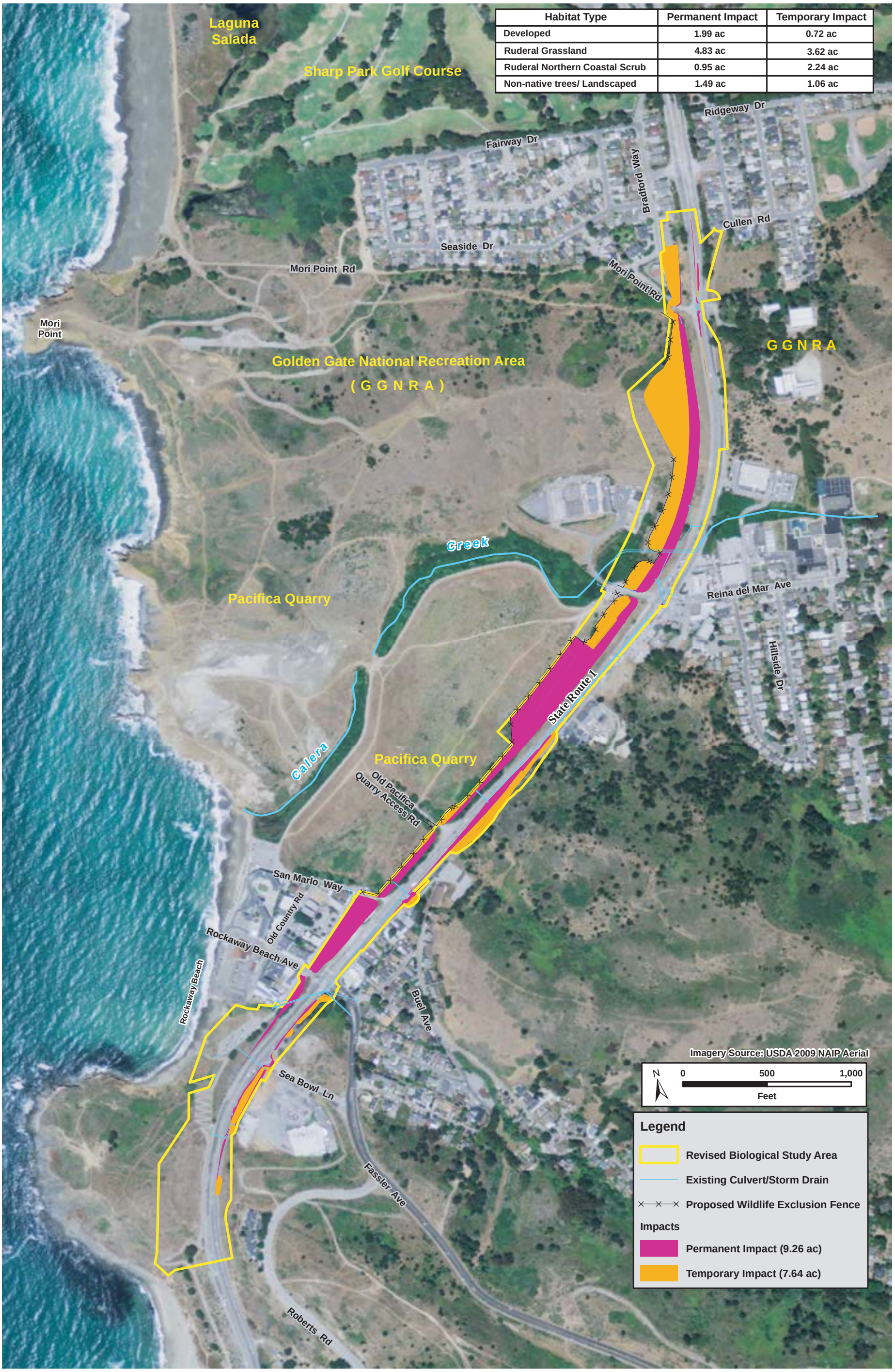
[34] The "project region" is the USGS quadrangle map where the project is located (in this case the Montara Mountain Quadrangle) and all eight of the surrounding quadrangle maps.
[35] The BSA encompasses the same area as the Area for Potential Effect (APE).




HABITAT MAP

FIGURE 2.5

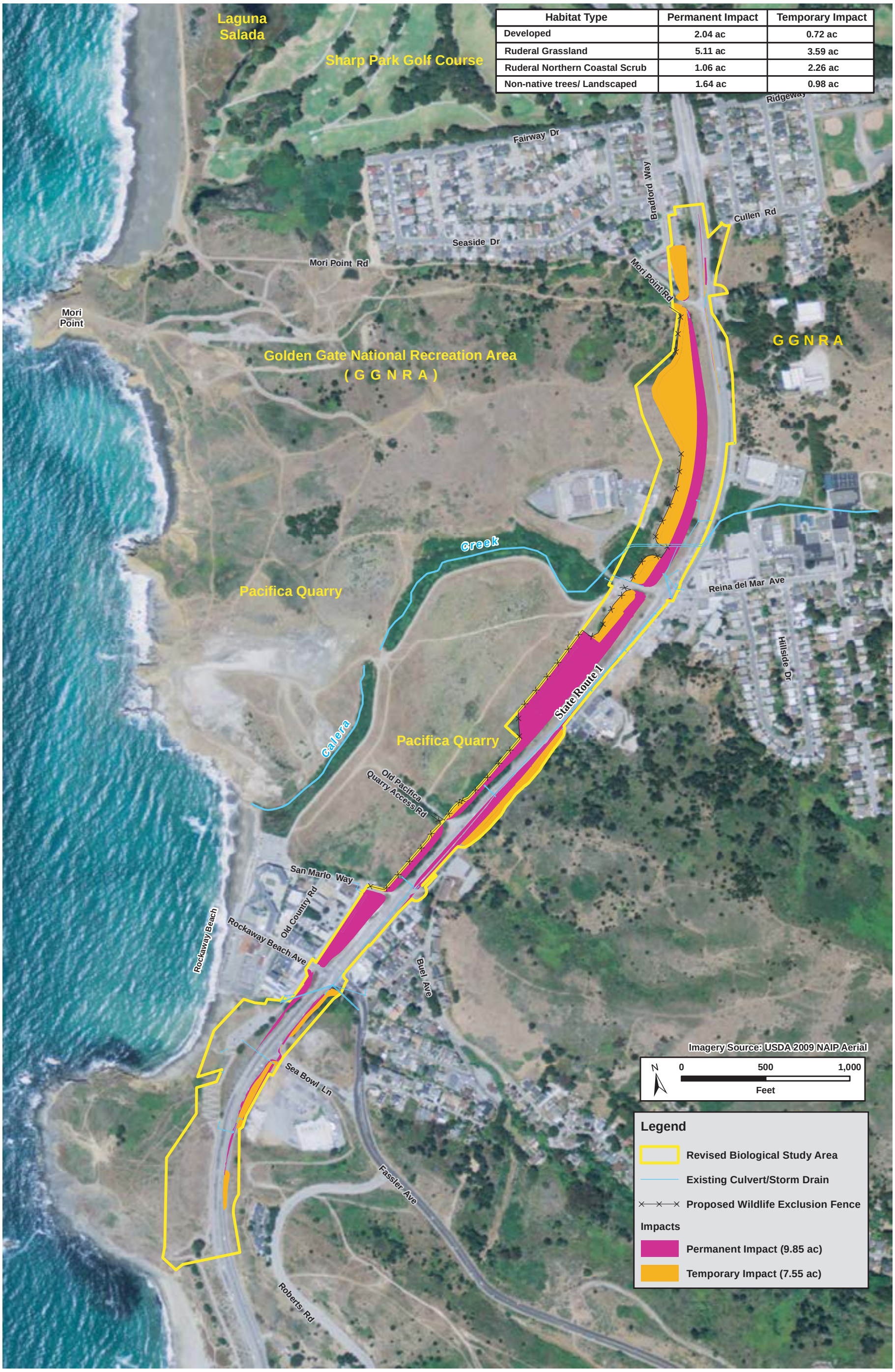
| Habitat Type | Permanent Impact | Temporary Impact |
|---|---|---|
| Developed | 1.99 ac | 0.72 ac |
| Ruderal Grassland | 4.83 ac | 3.62 ac |
| Ruderal Northern Coastal Scrub | 0.95 ac | 2.24 ac |
| Non-native trees/ Landscaped | 1.49 ac | 1.06 ac |




NARROW MEDIAN ALT HABITAT IMPACTS MAP

FIGURE 2.6

| Habitat Type | Permanent Impact | Temporary Impact |
|---|---|---|
| Developed | 2.04 ac | 0.72 ac |
| Ruderal Grassland | 5.11 ac | 3.59 ac |
| Ruderal Northern Coastal Scrub | 1.06 ac | 2.26 ac |
| Non-native trees/ Landscaped | 1.64 ac | 0.98 ac |




LANDSCAPED MEDIAN HABITAT IMPACTS MAP

FIGURE 2.7

#### *2.16.2.2 Wildlife Corridors*

SR 1 currently impedes the dispersal of terrestrial animal species between coastal habitats and inland areas along the project alignment. A solid median barrier, with breaks at two intersections, creates a substantial obstacle for at-grade dispersal by animals. North of the BSA, connectivity at a golf course crossing under SR 1 is short and open enough so that animals can see the opposite side and there is a visual connection through the crossing. Cover is limited on either side, however, and the undercrossing is used regularly by golfers and other pedestrians.

Within the BSA, the existing Calera Creek culvert passes under both the highway and a large fill embankment northwest of Reina Del Mar Avenue. As a dispersal route for animals, the current culvert provides little connectivity for terrestrial animal species due to its length, slope, and shallow water (exposing aquatic animals to predation) and lack of cover.

#### *2.16.2.3 Fish Passage*

No fish species subject to fisheries management plans are present in Calera Creek, the only water body in the BSA. Calera Creek historically was ephemeral; however, flows from Pacifica's wastewater treatment plant into the lower reach of the creek have made flows in this area perennial. Steelhead, tidewater goby, and other species associated with coastal streams are not present in the creek within the BSA and a drop structure at the creek mouth may act as a barrier to migration.

### 2.16.3 Environmental Consequences

#### *2.16.3.1 Natural Communities*

No natural communities of concern (i.e., shining willow riparian forest, aquatic, or seasonal wetlands) are located within areas of permanent or temporary project impacts. Either of the two Build Alternatives would avoid these habitats in the BSA by using retaining walls to constrain roadway fill. A cantilevered bridge would be constructed over a seasonal aquatic habitat west of SR 1 that is currently shaded by trees. Although the cantilevered roadway section of the culvert area would create some shading, this would not be a substantial change because the aquatic habitat is shaded and no vegetation is growing in this area under existing conditions. Therefore, the project will not result in direct impacts to natural communities of concern.

As described in Section *2.10.4 Water Quality and Stormwater Runoff, Avoidance, Minimization, and/or Mitigation Measures,* design of the project will include implementation of temporary (construction phase) and permanent (operational phase) Best Management Practices (BMPs) to reduce potential impacts to existing water quality from storm water runoff, as necessitated by the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) permit. These temporary and permanent BMPs will avoid impacts to sensitive shining willow riparian forest, perennial aquatic habitat, and seasonal wetland/seasonal aquatic habitats.

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

The avoidance and minimization measures listed below and in Section *2.10 Water Quality and Storm Water Runoff*, which are included in the project, will avoid effects to sensitive shining willow riparian forest, perennial aquatic habitat, and seasonal wetland/seasonal aquatic habitats.

**AM HAB-1**: All temporary staging areas and construction access roads will be located in upland areas or existing developed areas out of wetland, aquatic and riparian habitats.

**AM HAB-2:** No equipment will be operated in the live stream channel of Calera Creek. Other hydrological features (i.e., topographic depressions, drainage ditches, culverts, etc.) outside of the project footprint will not be manipulated (i.e., re-routed, dredged, filled, graded, etc.).

**AM HAB-3:** The boundaries of the project will be clearly delineated prior to the start of construction with orange-colored plastic construction fencing (ESA) to prevent workers or equipment from inadvertently straying from the designated construction area. All construction personnel, equipment, and vehicle movement shall be confined within the designated construction, access, and staging areas. The ESA fencing will remain in place throughout the duration of the Project, while construction activities are ongoing and will be regularly inspected and fully maintained at all times. The final Project plans will depict all locations where ESA fencing will be installed and how it will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs.

# 2.17 WETLANDS AND OTHER WATERS

## 2.17.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Clean Water Act (33 U.S.C. 1344) is the primary law regulating wetlands and waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the Environmental Protection Agency (EPA).

USACE issues two types of 404 permits: Standard and General permits. Nationwide permits, a type of General permit, are issued to authorize a variety of minor project activities with no more than minimal effects. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (U.S. EPA 40 CFR Part 230), and whether permit approval is in the public interest. The 404 (b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (E.O. 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction, and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the Department of Fish and Game (CDFG) and the Regional Water Quality Control Boards (RWQCBs). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional

limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications in compliance with Section 401 of the Clean Water Act. However, a 401 certification will not be required for this project, as a cantilevered bridge will be constructed over an existing culvert outfall to accommodate the roadway widening, but the proposed project will not involve any work within the culvert or change the culvert in any way.

### 2.17.2 Affected Environment

Wetlands at the project site were mapped according to the methodologies of both U.S. Army Corps of Engineers (USACE) and the California Coastal Commission (CCC). Approximately 0.87 acres of wetlands and other waters meeting the regulatory definitions of either the USACE (Section 404 Wetlands and Waters) or CCC (Coastal Zone Wetlands) occur within the project site.[36] These areas include riparian/wetland habitat associated with the Calera Creek corridor, seasonal wetland/seasonal aquatic habitat associated with a drainage ditch that parallels southbound SR 1, three small fringe areas seasonal drainage ditches/seeps within the BSA, and small patches of seasonal wetlands located within ruderal grasslands on fill materials (refer to Figure 2.5).

The Calera Creek corridor within the BSA supports a mosaic of riparian and freshwater emergent wetland vegetation. Seasonal wetland/seasonal aquatic habitat types occur in a ditch that parallels SR 1 and in small patches within ruderal grassland habitat located on fill materials. The small patches of wetlands elevated above Calera Creek on the SR 1 roadway embankment are supported by direct precipitation events and not Calera Creek hydrology.

Within the BSA, the small fringe of riparian habitat associated with Calera Creek is of high quality. Seasonal wetland/seasonal aquatic habitat in the BSA that supports a mixture of non-native and native plant species is of lower quality.

Four thickets of shining willow trees were observed growing outside of seasonal wetland areas, seasonal aquatic areas, or the Calera Creek riparian corridor during wetlands surveys. These trees were not mapped as wetlands as they appear to have been either planted and/or dependent on soil moisture far below the soil surface.

### 2.17.3 Environmental Consequences

No work or staging of equipment or materials is proposed within areas supporting wetlands or other waters as defined by USACE or coastal wetlands as defined by the CCC. The project Build Alternatives specifically avoid wetland and high quality riparian habitat areas by using retaining walls to constrain roadway fill so that construction will occur outside of wetland and high quality

[36] The project boundary within which all wetland studies were conducted paralleled SR 1 extending east and west only in the Caltrans easement areas. The studies did not include land privately held on either side of SR 1, as there are no improvements planned for these adjacent parcels as part of the proposed project. At the request of the California Coastal Commission staff, the studies included wetland mapping on lands located west of SR 1; this information was obtained from a wetland study conducted by L.C. Lee & Associates in 2002.

riparian habitat areas. Therefore, wetlands and high quality riparian habitat areas will not be directly affected by the project.

Indirect impacts on water quality in wetlands, riparian habitat areas, and other waters on-site or off-site are possible during and after construction of the project. However, in compliance with Caltrans' NPDES permit, the project includes feasible BMPs to treat stormwater runoff and control pollutants in runoff during and after construction (refer to Section *2.10.3 Water Quality and Stormwater Runoff, Environmental Consequences* of this report).

A cantilevered bridge will be constructed under either Build Alternative over an existing culvert outfall where the widening of SR 1 approximately 700 feet north of Fassler Avenue will expand over wetland habitat. Although the cantilevered roadway section of the culvert area would create some shading, this would not be a substantial change because this wetland area is currently shaded and no vegetation is growing in this area under existing conditions. Therefore, the proposed cantilevered bridge would not indirectly affect wetlands.

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

As described in Section *2.10.3 Water Quality and Stormwater Runoff, Environmental Consequences*, in compliance with Caltrans' NPDES permit, the project includes feasible BMPs to treat stormwater runoff and control pollutants in runoff during the construction and post-construction periods. These measures will avoid indirect effects to wetlands in the vicinity of the project.

No additional avoidance, minimization, or mitigation measures are proposed.

### 2.17.5 Wetlands Only Practicable Finding

As described in section 2.17.3 above, wetlands and high quality riparian habitat areas would not be directly affected by the project, and the project would be in compliance with Executive Order 11990. Based on the above considerations, it is determined that there are no practicable findings necessary, as neither of the proposed alternatives would include construction in wetlands. Therefore, no additional practicable measures to minimize harm to wetlands are necessary.

## 2.18 PLANT SPECIES

### 2.18.1 Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) share regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special-status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see Section *2.20 Threatened and Endangered Species* in this document for detailed information regarding these species.

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

The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531, et seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act (Fish and Game Code, Section 1900-1913) and the California Environmental Quality Act, Public Resources Code, Sections 2100-21177.

### 2.18.2 Affected Environment

An initial list of 62 special-status plants[37] were identified as occurring (extant or historical) within the general area defined by the Montara Mountain Quadrangle and surrounding quadrangle maps. Of the 62 species, 56 were dismissed due to a lack of habitat (such as serpentine, strongly alkaline, or clay soils, vernal pool habitat, and cismontane woodland habitat) or too low of an elevation for these species within the BSA of the two project Build Alternatives. The remaining six special-status species were further considered for occurrence either because their preferred habitat type was observed on or within the BSA or the database noted a historical occurrence of the species within the project vicinity (Table 2.16). These six species were determined to be absent after completion of reconnaissance and focused blooming period surveys of the site.

**TABLE 2.16**
**POTENTIAL FOR SPECIAL-STATUS SPECIES**
**(OTHER THAN THREATENED OR ENDANGERED SPECIES)***
**TO OCCUR WITHIN THE PROJECT'S BIOLOGICAL STUDY AREA**

| **Common Name** | Scientific Name | **Status** | **General Habitat Description** | **Habitat/Species Present/Absent** | **Rationale** |
|---|---|---|---|---|---|
| **Plants** | | | | | |
| Brewer's calandrinia | *Calandrinia breweri* | CNPS 4.2 | Chaparral, coastal scrub/sandy or loamy, disturbed sites and burns. | HP/SA | Suitable habitat occurs in the BSA within the disturbed scrub habitat; species not detected during surveys; determined to be absent. |
| Bristly sedge | *Carex comosa* | CNPS 2.1 | Coastal prairie, marshes and swamps (lake margins), and valley and foothill grassland. | HP/SA | Suitable habitat in seasonal wetlands within ruderal grassland habitat degraded by non-native species; species not observed during field surveys; determined to be absent. |

[37] This includes 10 Federal or State threatened species that are also on California Native Plant Society lists.

**TABLE 2.16**
**POTENTIAL FOR SPECIAL-STATUS SPECIES**
**(OTHER THAN THREATENED OR ENDANGERED SPECIES)***
**TO OCCUR WITHIN THE PROJECT'S BIOLOGICAL STUDY AREA**

| **Common Name** | Scientific Name | **Status** | **General Habitat Description** | **Habitat/Species Present/Absent** | **Rationale** |
|---|---|---|---|---|---|
| Coast lily | *Lilium maritimum* | CNPS 1B.1 | Broadleafed upland forest, closed-cone coniferous forest, coastal prairie, coastal scrub, marshes and swamps (freshwater), and north coast coniferous forest/sometimes roadsides. | HP/SA | Suitable habitat within coastal scrub habitat is degraded by non-native species; species not observed during field surveys; determined to be absent. |
| Diablo helianthella | *Helianthella castanea* | CNPS 1B.2 | Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. | HP/SA | Suitable habitat exists within Calera Creek and in degraded scrub habitat within the ruderal northern coastal scrub habitat within the BSA; species was not detected during surveys; determined to be absent. |
| Harlequin lotus | *Lotus formosissimus* | CNPS 4.2 | Broadleafed upland forest, coastal bluff scrub, coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, meadows and seeps, marshes and swamps, north coast coniferous forest, valley and foothill grassland/wetlands, and roadsides. | HP/SA | Suitable habitat within seasonal wetlands and ruderal grassland habitat within the BSA, (species tolerates disturbance and is found on roadsides); species not detected during surveys; determined to be absent. |
| Marin checker lily | *Fritillaria lanceolata* var. *tristulis* | CNPS 1B.1 | Coastal bluff scrub, coastal prairie, and coastal scrub. | HP/SA | Marginally suitable habitat exists within ruderal Northern Coastal scrub habitat within the BSA; species not detected during surveys; determined to be absent. |

**TABLE 2.16**
**POTENTIAL FOR SPECIAL-STATUS SPECIES**
**(OTHER THAN THREATENED OR ENDANGERED SPECIES)***
**TO OCCUR WITHIN THE PROJECT'S BIOLOGICAL STUDY AREA**

| **Common Name** | Scientific Name | **Status** | **General Habitat Description** | **Habitat/Species Present/Absent** | **Rationale** |
|---|---|---|---|---|---|
| **Animals** | | | | | |
| Western pond turtle | *Actinemys marmorata* | SSC | Permanent, or nearly permanent, water in a variety of habitats. | HP | Low quality nesting habitat within the BSA; cannot discount potential nesting in BSA, however, probability is very low. Potential visitor to the BSA. |
| Northern harrier | *Circus cyaneus* | SSC (nesting) | Extensive grasslands and marshes. | HP | May occur as an occasional forager. Only considered "special-status" when nesting; no suitable breeding habitat in the BSA due to the limited extent of open grasslands and wetlands; determined to be absent as a breeder. |
| Long-eared owl | *Asio otus* | SSC (nesting) | Riparian bottomlands with tall, dense willow and/or cottonwoods; also dense live oak and California Bay along upland streams. Forages primarily in open areas. | HP | Only considered "special-status" when nesting. May use riparian habitat during migration but unlikely to nest there; determined to be absent as a breeder. |
| Vaux's swift | *Chaetura vauxi* | SSC (nesting) | Nests in snags in coastal coniferous forests or, occasionally in chimneys; forages aerially. | HP | May forage on the site although unlikely due to disturbance, no wooded breeding habitat in BSA; determined to be absent as a breeder. |

**TABLE 2.16**
**POTENTIAL FOR SPECIAL-STATUS SPECIES**
**(OTHER THAN THREATENED OR ENDANGERED SPECIES)***
**TO OCCUR WITHIN THE PROJECT'S BIOLOGICAL STUDY AREA**

| **Common Name** | Scientific Name | **Status** | **General Habitat Description** | **Habitat/Species Present/Absent** | **Rationale** |
|---|---|---|---|---|---|
| Olive-sided flycatcher | *Contopus cooperi* | SSC (nesting) | Wooded areas usually near openings, burns, ponds, and bogs. | HP | May forage on the site although unlikely due to disturbance, no wooded breeding habitat in BSA; determined to absent as a breeder. |
| Loggerhead shrike | *Lanius ludovicianus* | SSC (nesting) | Nests in bushes or trees surrounded by open grassland or ruderal habitats. | HP | Suitable foraging and breeding habitat occurs in the BSA; potentially present. |
| Yellow warbler | *Dendroica petechia* | SSC (nesting) | Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods. | HP | Only considered "special-status" when nesting; very scarce as a breeder on the San Mateo County coast; also unlikely to nest along riparian margin in the BSA. Occurs in the BSA as a common migrant; and may be present as a breeder. |
| San Francisco common yellowthroat | *Geothlypis trichas sinuosa* | SSC | Breeds primarily in fresh and brackish marshes in tall grass, tules, willows, also occasionally in coastal scrub and riparian habitats. | HP | Potentially suitable breeding habitat present in riparian and adjacent habitat in BSA. Likely present. |
| Yellow-breasted chat | *Ictera virens* | SSC (nesting) | Dense riparian thickets. | HP | Although the willow riparian habitat is similar to breeding habitat where this species occurs, chats do not breed on the San Mateo County coast; very rare as migrant; determined to absent as a breeder. |

**TABLE 2.16**
**POTENTIAL FOR SPECIAL-STATUS SPECIES**
**(OTHER THAN THREATENED OR ENDANGERED SPECIES)***
**TO OCCUR WITHIN THE PROJECT'S BIOLOGICAL STUDY AREA**

| Common Name | Scientific Name | Status | General Habitat Description | Habitat/Species Present/Absent | Rationale |
|---|---|---|---|---|---|
| Bryant's savannah sparrow | *Passerculus sandwichensis alaudinus* | SSC | Low tidally influence habitat, adjacent ruderal areas, moist grasslands within and just above the fog belt and infrequently, drier grassland or ruderal habitat. | HP | Potentially suitable foraging habitat; may occur as uncommon visitor, but not expected to nest in BSA. |
| White-tailed kite | *Elanus leucurus* | FP | Nests in trees surrounded by extensive open areas used for foraging. | HP | Suitable breeding and foraging habitat present within BSA; potentially present. |

SSC = State Species of Special Concern FP = Fully Protected
SR = State Rare
CNPS Lists (2010):
CNPS 1B – Plants rare, threatened, or endangered in California and elsewhere
CNPS 2 - Plants rare, threatened, or endangered in California but more common elsewhere
CNPS 3 – Plants about which more information is needed – a review list
CNPS 4 - Plants of a limited distribution – a watch list

A = Absent, no habitat present
HP/SA = Habitat Present/Species Absent
HP = Habitat present, species may be present

* Refer to Table 2.17 for Threatened and Endangered Species.
**Source:** State Route 1/Calera Parkway Project, Natural Environment Study and addenda, January 2009-2011.

### 2.18.3 Environmental Consequences

No special-status plant species are present within the impact area of the two project Build Alternatives. Therefore, the project would not affect any special-status plant species.

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

No avoidance, minimization, or mitigation measures are proposed.

# 2.19 ANIMAL SPECIES

## 2.19.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration (NOAA) Fisheries and the California Department of Fish and Game (CDFG) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section *2.20 Threatened and Endangered Species*. All other special-status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the Fish and Game Code
- Section 2000 of the Fish and Game Code
- Sections 3503, 3511, 3513, and 3800 of the Fish and Game Code
- Section 4150 and 4152 of the Fish and Game Code
- Sections 4700 and 5050 of the Fish and Game Code

## 2.19.2 Affected Environment

An initial list of special-status animals were identified as potentially occurring within the general area defined by the Montara Mountain Quadrangle and surrounding quadrangle maps. The list of special-status animal species was evaluated for the potential for species to occur within the BSA, which consists of the footprint of the two project Build Alternatives as well as all areas that may be affected directly or indirectly by construction activity. Most of the regional special-status animal species were rejected for occurrence in the BSA because the project area lacks suitable habitat and/or is outside the range of the species. Species for which there is suitable habitat within the BSA are listed above in Table 2.16.

The western pond turtle is a special-status reptile that is expected to occur and may breed within the BSA. Four bird species, the loggerhead shrike, yellow warbler, San Francisco Common Yellowthroat, and white-tailed kite, may nest in or adjacent to the BSA. Several special-status bird species that occur in the region may occur in the BSA but only as uncommon to rare visitors, migrants, or transients, and are not expected to reside or breed on the site. These nine species are discussed further and grouped together as non-breeding special-status bird species.

### *2.19.2.1 Western Pond Turtle*

Aquatic habitat where western pond turtles would reside is not present within the BSA. Aquatic habitat for western pond turtles is present west of the BSA at the Pacifica wastewater treatment ponds. Based upon surveys of suitable nesting habitat within 300 feet of the wastewater ponds, Western pond turtles could occur within the BSA as dispersing individuals, but are not expected to occur regularly or nest within the BSA.

### *2.19.2.2 Breeding Special-Status Bird Species (Limited Occurrence)*

Four special-status bird species (loggerhead shrike, yellow warbler, San Francisco common yellowthroat, and white-tailed kit) could breed within the BSA in small numbers.

#### Loggerhead Shrike

The scrub and landscaped habitats within the BSA provide potentially suitable nesting habitat for the loggerhead shrike and the ruderal habitats within the BSA provide suitable foraging habitat. Along with foraging habitat on adjacent lands, sufficient foraging habitat is available to support nesting within the BSA.

#### Yellow Warblers

The yellow warbler is very scarce as a breeder on the San Mateo County coast; however, the riparian habitat in the corridor along lower Calera Creek appears suitable for breeding and one or two pairs could nest near the BSA. Yellow warblers also occur along Calera Creek as migrants and may be found in the BSA during spring and fall migration.

#### San Francisco Common Yellowthroat

The San Francisco common yellowthroat is one of the approximately 12 subspecies of common yellowthroat recognized in North America. The common yellowthroat has been observed along the Calera Creek riparian corridor, although it cannot be determined that this observation was of the San Francisco subspecies. The Calera Creek riparian zone provides suitable breeding habitat and lies within the known range of the subspecies. Although only a small margin of the riparian habitat is within the BSA, yellowthroats may also nest in adjacent tall ruderal stands of herbaceous vegetation and the ruderal grassland areas immediately adjacent to the riparian habitat provide potential nesting habitat for the San Francisco common yellowthroat.

#### White-tailed Kite

The large shrubs and small trees within the BSA provide suitable nesting habitat for the white-tailed kite. This species may also forage in the BSA and in the extensive ruderal grassland habitat adjacent to the BSA.

### *2.19.2.3 Non-Breeding Special-Status Bird Species*

Eight special-status bird species could occasionally occur in the BSA as non-breeding foragers, migrants, or visitors. Five of these species (northern harrier, long-eared owl, Vaux's swift, olive-sided flycatcher, and yellow-breasted chat) are only considered special-status species while nesting, as that is the aspect of their lifecycle that is threatened. Since they are not expected to breed in the BSA under either Build Alternative, they are not discussed further. Three species, American peregrine falcon, bank swallow, and Bryant's savannah sparrow, are considered special-status species throughout their life cycle. The American peregrine falcon and bank swallow are state threatened or endangered species and are discussed in Section *2.20 Threatened and Endangered Species*.

**Bryant's Savannah Sparrow**

Grassland in the BSA is too tall and dense for nesting by this species; however, Bryant's savannah sparrows may forage in the BSA in small numbers.

## 2.19.3 Environmental Consequences

Habitat for the western pond turtle within the BSA is marginal, although it is possible that turtles may occur in the BSA occasionally as dispersing individuals. The same mitigation measures included in the project for California red-legged frogs and San Francisco garter snakes in Section *2.20 Threatened and Endangered Species* would reduce the potential for individual turtles to be affected by construction activities under either Build Alternative.

Disturbance of loggerhead shrike, yellow warbler, San Francisco common yellowthroat, or white-tailed kite during the breeding season could result in the destruction of active nests, the incidental loss of fertile eggs or nestlings, or the abandonment of nests. Other special-status bird species that may forage, but not nest in the area (including Bryant's savannah sparrow), will avoid or leave the project area if disturbed by construction during foraging or migration. There would be no substantial effect on non-breeding special-status bird species resulting from the proposed Build Alternatives.

The project will affect ruderal and landscaped habitats that could be used by loggerhead shrike; however, only one pair at most would use habitats that would be lost due to project implementation. Riparian or ruderal habitat adjacent to riparian habitat within the BSA that could be used for nesting and foraging by yellow warbler and San Francisco common yellowthroat will not be directly affected by the project. Similarly, only one pair of white-tailed kites could be disturbed by the project. Loss of habitat for these species would not be substantial.

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

The avoidance and minimization measure listed below, which is included in the project, will avoid effects to nesting special-status birds.

**AM ANML-1:** Potential nesting substrate (e.g., bushes, trees, grass, and suitable artificial surfaces) will be removed during the non-breeding season (between September 1 and February 1), if feasible, to preclude nesting. If it is not feasible to schedule vegetation removal during the nonbreeding season, then pre-construction surveys for nesting birds shall be conducted by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. This survey shall be conducted no more than seven days prior to the initiation of construction activities. During this survey the ornithologist will inspect trees, shrubs, and other potential nesting habitats in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist, in consultation with CDFG, will determine the extent of a buffer zone to be established around the nests, typically 50-100 feet for passerine birds like yellow warblers and San Francisco common yellowthroats and up to 250 feet for white-tailed kites.

If construction activities cease for more than one week during the nesting season and nesting habitat for these species remains, additional preconstruction surveys will be conducted.

If it is necessary to conduct pre-construction surveys for nesting birds for vegetation removal during the nonbreeding season, the surveys will cover all bird species present. Any active, native bird nest that would be affected by construction activities, during the nesting season, would be protected under the Migratory Bird Treaty Act (MBTA). Caltrans has Standard Specifications (Bird Protection S5-625) to protect nesting birds which will be incorporated into the project design and implementation.

# 2.20 THREATENED AND ENDANGERED SPECIES

## 2.20.1 Regulatory Setting

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

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For projects requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising: (1) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983; and (2) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

## 2.20.2 Affected Environment

Species that are listed as threatened or endangered under FESA or CESA, and which are known to occur regionally, were evaluated for their potential to occur within the project's biological study area (BSA), which consists of the footprint of the two project Build Alternatives as well as all areas that may be affected directly or indirectly by the construction activity (action). Threatened and endangered species are addressed in the *Natural Environment Study* (December 2009) and addenda to that report (December 2010 and May 2011) as well as the *Biological Assessment* (September 2010). Table 2.17 lists species that potentially occur within the BSA, as well as the results of the evaluation, based upon information obtained from the USFWS from 2009-2013. The species

included in Table 2.17 is based on a USFWS species list that remains valid to date. No threatened or endangered plant species occur within the project's BSA for either Build Alternative.

**TABLE 2.17**
**POTENTIAL FOR THREATENED OR ENDANGERED ANIMAL SPECIES TO OCCUR WITHIN THE PROJECT'S BIOLOGICAL STUDY AREA**

| Common Name | Scientific Name | Status | General Habitat Description | Habitat/Species Present/Absent | Rationale |
|---|---|---|---|---|---|
| California red-legged frog | *Rana draytonii* | FT, SSC | Streams, freshwater pools, and ponds with emergent or overhanging vegetation. | Foraging Habitat Present | Present in Calera Creek and parcel adjacent to the BSA; potentially present in BSA. |
| San Francisco garter snake | *Thamnophis sirtalis tetrataenia* | SE, FE, FP | Wetlands, pools, riparian habitats, adjacent grasslands with rodent burrows, and adjacent lands primarily in San Mateo County. | Habitat Present | Documented northwest of BSA and suitable habitat present adjacent to the BSA; potentially present in BSA. |
| American peregrine | *Falco peregrines anatum* | SE, FP | Nest primarily on cliffs, forages over open habitats. | Foraging Habitat Present | No suitable nesting habitat; possibly a rare forager in the BSA. |
| Bank swallow | *Riparia riparia* | ST | River banks, ocean bluffs, and similar friable cliffs. | Foraging Habitat Present | No suitable breeding habitat; may occasionally forage over site, but no colony is know to exist in the vicinity. Occurs only as an occasional forager, if at all. |

FE = Federal endangered; FT = Federal threatened; FP = Federal protected
SE = State endangered; ST = State threatened; SSC = Species of Special Concern

**Sources:** State Route 1/Calera Parkway Project, Natural Environment Study and Addenda, 2009-2011.
USFWS, June 2011.

Two species listed under FESA may be present within the BSA. Consultation with the USFWS has been completed for these two species with issuance of a Biological Opinion (BO) from the USFWS in January 2012. Three species protected under CESA may be present within the BSA. Informal consultation has begun for the San Francisco garter snake. There is no potential for take for the other two species (bank swallow and American peregrine falcon), and CESA consultation will not be required for these species.

Several coordination/informal consultation meetings have been held for the project. A list of attendees at each meeting is also included in Section 2.4 of the Natural Environment Study. Refer to Chapter 4 of this document for a summary of the coordination/consultation and scoping meetings held on this project.

Threatened or endangered animal species that could occur in the area are discussed below.

### *2.20.2.1 California Red-legged Frog*

The California red-legged frog is a federal-threatened species. Critical Habitat[38] for this species was last formally established by the USFWS on April 12, 2006, and a revised proposal for Critical Habitat was published in the Federal Register on September 16, 2008. The BSA is not within the area designated as Critical Habitat in 2006 or under the new proposal. The nearest Critical Habitat on the revised 2008 map for San Mateo County is the Cahill Ridge unit approximately 0.3 miles east of the project.

California red-legged frogs were not observed within the BSA during breeding season surveys[39] and the majority of the BSA is unsuitable as habitat for California red-legged frogs due to the developed nature of the area, isolation from source populations, or lack of access to aquatic habitat. This species has been observed in several habitats and locations west of SR 1 between Mori Point Road and San Marlo Way, including a ditch that parallels SR 1 and the Pacifica water treatment ponds. Primary foraging areas in the vicinity include within the riparian habitat along Calera Creek and upland habitat around the water treatment ponds. Given the ability of the frogs to disperse and the proximity of these wetland habitats to the BSA, it is possible that individuals (particularly juveniles) could disperse into or through habitats in the BSA, west of SR 1.

California red-legged frogs are not known in Calera Creek east of SR 1. For clarification, there is a CNDDB record from 2006 for California red-legged frog in the Calera Creek drainage to the east of SR 1, approximately 3,000 feet from the highway. However, this individual is more likely to have dispersed from known populations located upslope in the GGNRA lands farther east because of the minimal connectivity the Calera Creek culvert provides. The existing box culvert under SR 1 is considered a barrier or obstacle to the dispersal of California red-legged frogs to the east. The 10 foot by eight foot concrete box culvert conveying Calera Creek beneath SR 1 is over 470 feet in length, and the eastern half is sloped at a five percent grade. The lack of light in the culvert, in addition to the enhanced predation potential, means that frogs are unlikely to attempt to disperse through the box, and few would be successful if they tried. It is expected that most or all red-legged frogs that attempt to cross SR 1 in the project area are killed by traffic, and that virtually no east-west dispersal across SR 1 occurs in the BSA under existing conditions.

Calera Creek provides the only habitat east of State Route 1 which, although marginal, may support dispersing California red-legged frogs. The existing culvert under State Route 1 may provide some connectivity in this location. The creek east of State Route 1 winds within, through, and under development within the drainage, and as such, this portion of Calera Creek is seriously impacted by channelization, lack of any riparian vegetation or corridor, exotic invasive plants, nuisance flows, and stream barriers. South of Calera Creek and east of State Route 1, there is a steep ridge line (between 500 and 700 feet above State Route 1) which does not support the aquatic habitat that is essential for California red-legged frog. To each side (generally to the

[38] Critical Habitat is defined as specific areas that are essential to the conservation of a Federally-listed species, and which may require special management considerations or protection. Critical habitat is determined using the best available scientific information about the physical and biological needs of the species.
[39] Based upon current USFWS protocol surveys in March through May 2006 and reconnaissance surveys in June and July 2007 as well as in January, March and June 2008.

east and west) of the ridgeline the lower elevations are developed. Therefore, populations of these species will not be able to establish within the Calera Creek drainage, and individuals that might disperse to the reach of Calera Creek east of State Route 1 would meet with many hazards with a high risk of mortality.

#### *2.20.2.2 San Francisco Garter Snake*

The San Francisco garter snake, listed as federally and state endangered subspecies, is restricted primarily to San Mateo County with historic observations in Santa Cruz County. They occur in a number of aquatic and terrestrial habitats in a highly restricted geographical range. Juveniles and adults have been observed in natural lagoons, dune ponds, pools in or next to streams, streams, marshlands, sag ponds, and springs as well as human-created ponds, canals, sand and gravel pits containing water, and large reservoirs. Adjacent upland areas with hibernation sites for snakes during winter are also important. The presence of California red-legged frogs and/or bullfrogs, and Pacific treefrogs, as prey, is also associated with habitat for this subspecies. Habitat loss and habitat fragmentation are the principal reasons for decline of San Francisco garter snake populations.

A population of San Francisco garter snakes associated with Sharp Park Golf Course, Laguna Salada, and Mori Point is located approximately 0.75 mile northwest of the BSA. This population is one of six known, extant populations. San Francisco garter snakes have been observed at Sharp Park and at nearby wetlands at Mori Point (e.g., Horse Stable Pond and the north GGNRA California red-legged frog pond) in 2008[40]. San Francisco garter snakes were not detected in the BSA during California red-legged frog surveys in 2002 and 2006 or during reconnaissance-level surveys in 2007 and 2008. This species could occur within the BSA due to past occurrence of the species on the site, the proximity to known established populations, the proximity of suitable foraging habitat in the Pacifica water treatment ponds and Calera Creek, and the suitable dispersal habitat within the western portions of the BSA between Mori Point Road and San Marlo Way. SR 1 and the Calera Creek culvert under the roadway are substantial obstacles to snake dispersal to the east of SR 1.

#### *2.20.2.3 American Peregrine Falcon*

The American peregrine falcon is one of three subspecies of peregrine falcons in North American and a state-endangered species. It may be an occasional forager in the area, especially during winter and migration and may occur in or over the BSA. There is no suitable nesting habitat for American peregrine falcon in the project vicinity.

#### *2.20.2.4 Bank Swallow*

The bank swallow, a state threatened species, is a neotropical migrant that nests in colonies in lowland areas along rivers, streams, lakes, reservoirs and ocean coasts. Bank swallows feed primarily over riparian areas. Suitable nesting habitat does not occur within or near the BSA.

[40] SBI. 2008. Sharp Park Wildlife Surveys and Special Status Reptile and Amphibian Restoration Recommendations.

## 2.20.3 Environmental Consequences

### *2.20.3.1 California Red-legged Frogs*

**Habitat and Incidental Take**

California red-legged frogs use portions of the mosaic of habitats in the area west of SR 1 for breeding, foraging and dispersal.[41] Areas within the BSA between Mori Point Road and San Marlo Way provide foraging and dispersal habitat for frogs but no breeding habitat.

The two project Build Alternatives would not result in direct permanent or temporary effects to aquatic, riparian, or wetland habitats used by California red-legged frogs. The hydrology of aquatic habitats outside the BSA where California red-legged frogs could be present also would not be altered by the project.

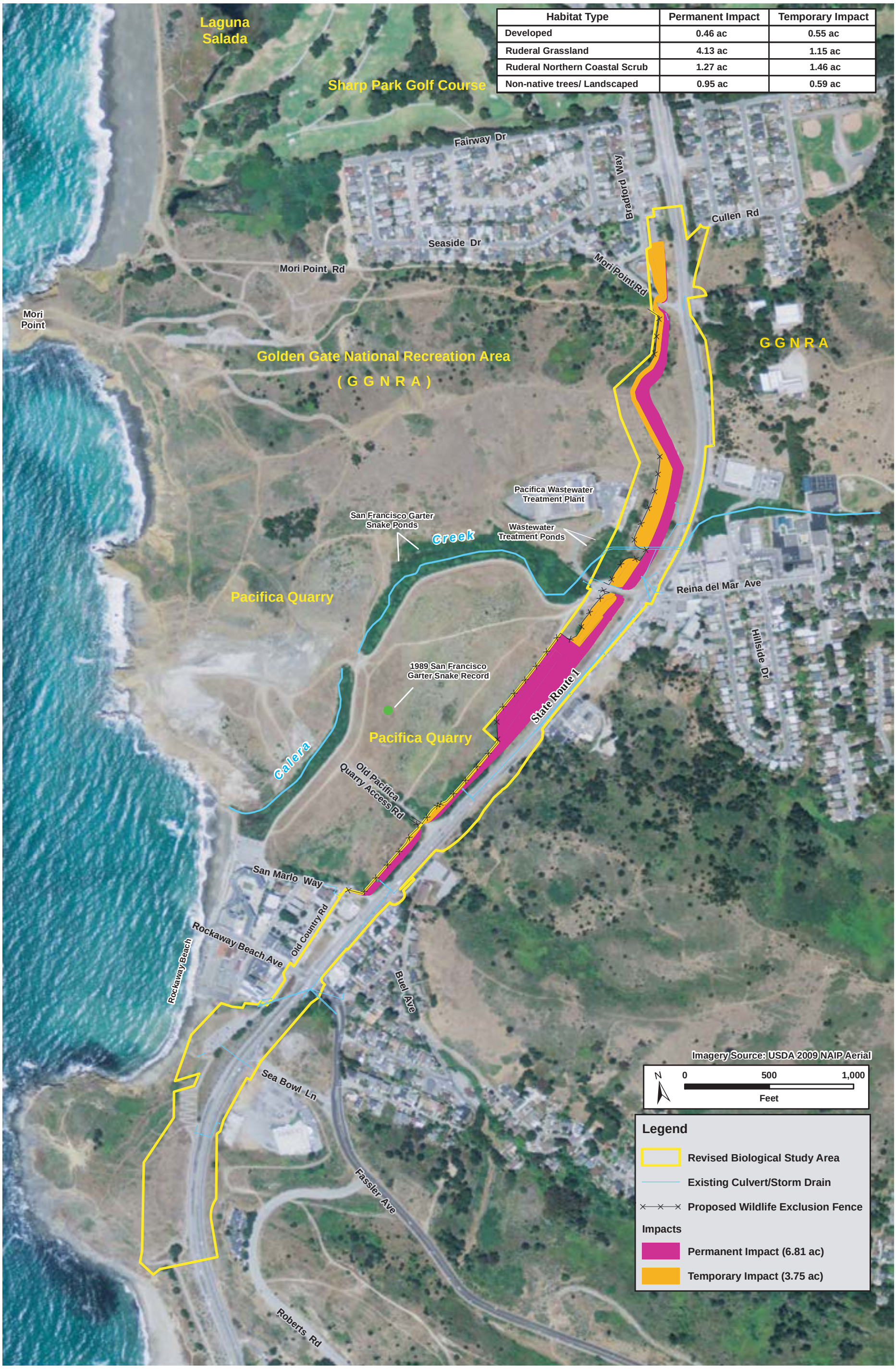
Construction of the proposed project would disturb developed and roadside/ruderal grassland habitat that could be used for foraging and dispersal by frogs. The Narrow Median Build Alternative would result in permanent impacts to 6.81 acres of potentially occupied habitat and temporary impacts to 3.75 acres of potentially occupied habitat (see Figure 2.8), and the Landscaped Median Build Alternative would affect approximately 0.27 acres of additional dispersal habitat (see Figure 2.9). Temporary impacts would occur in the area between the proposed future edge of pavement and the outer limits of cut and/or fill plus construction staging and access areas. No paving is proposed in temporary impact areas, and it is anticipated that habitat of equal value would be reestablished within one year following revegetation with native plant species.

The conversion of existing ruderal habitat to pavement would have little effect on the local California red-legged frog population due to habitat loss. Because California red-legged frogs can disperse across habitat within the BSA and along the roadway, although unlikely, there could be loss of individual frogs during construction.

Construction of the proposed project will likely adversely affect the California red-legged frog through harassment, injury, mortality and habitat loss/degradation.

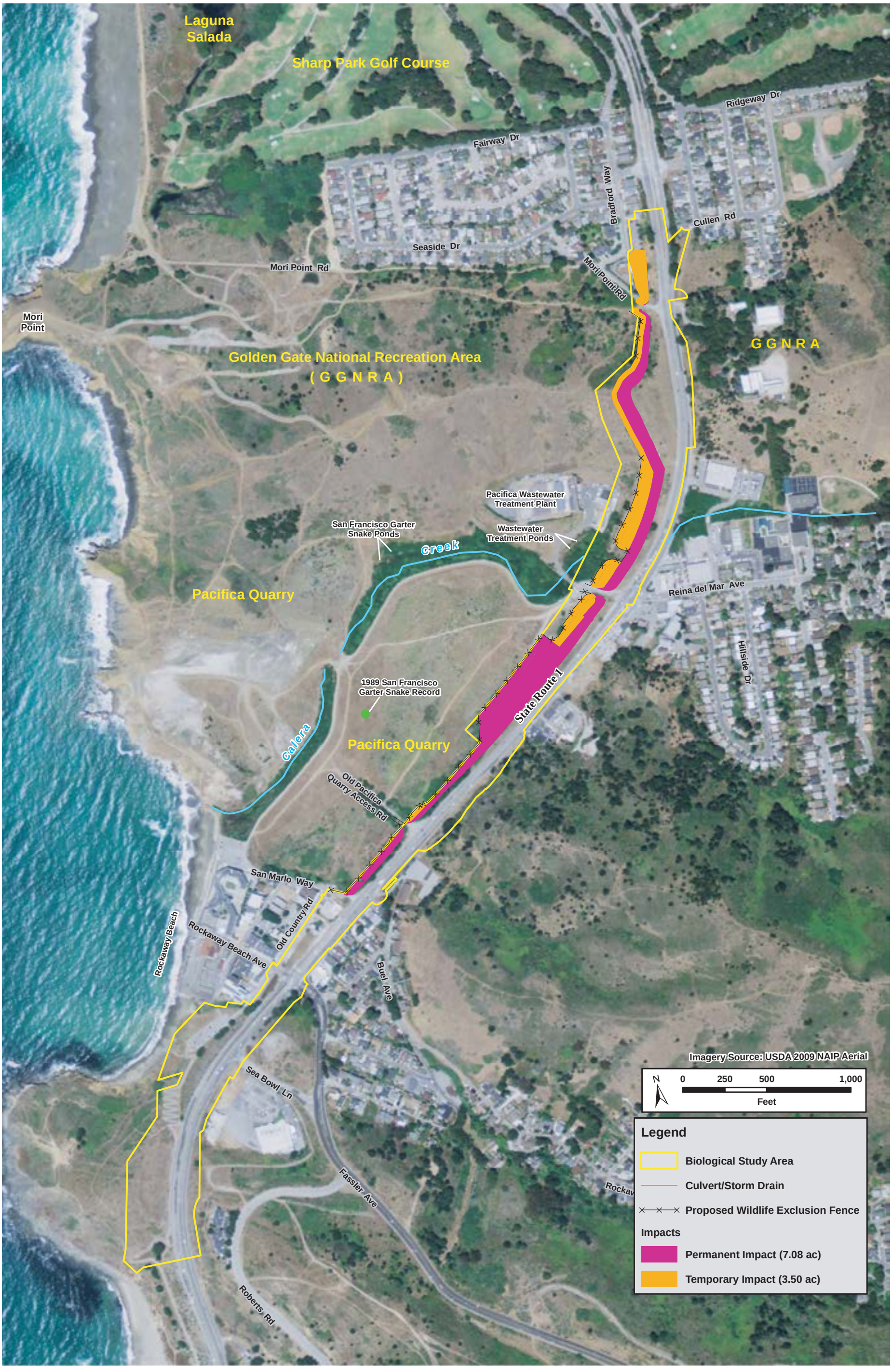
[41] The California red-legged frog breeding habitat closest to proposed project disturbance areas are the City of Pacifica wastewater treatment ponds, over 250 feet from construction areas. Aquatic habitat in Calera Creek is over 200 feet from the future roadway.

| Habitat Type | Permanent Impact | Temporary Impact |
|---|---|---|
| Developed | 0.46 ac | 0.55 ac |
| Ruderal Grassland | 4.13 ac | 1.15 ac |
| Ruderal Northern Coastal Scrub | 1.27 ac | 1.46 ac |
| Non-native trees/ Landscaped | 0.95 ac | 0.59 ac |




THREATENED SPECIES HABITAT IMPACTS -
NARROW MEDIAN ALTERNATIVE

FIGURE 2.8




THREATENED SPECIES HABITAT IMPACTS -
LANDSCAPED MEDIAN ALTERNATIVE

FIGURE 2.9

**Barriers to Movement**

As previously discussed above and in Section *2.19 Animal Species*, an existing median barrier currently prevents California red-legged frogs from successfully crossing the SR 1 roadway. Under the proposed project, the paved width of SR 1 would increase and retaining walls would be installed along about 1,200 linear feet of the roadway, north of San Marlo Way except where a cantilever bridge will cross the culvert outflow. An additional permanent barrier will also be constructed approximately between 900 feet south of Mori Point Road and San Marlo Way to prevent small animal movement onto the roadway. This barrier will, in particular, be designed to impede or prevent California red-legged frogs from entering the roadway.

The retaining wall and barrier and the bridge will prevent California red-legged frogs from reaching the road and suffering mortality along this stretch of the roadway. There will be beneficial long-term effects to red-legged frogs, and perhaps the population, with the installation of this retaining wall/barrier by reducing the potential for frogs to disperse onto SR 1 and suffer mortality from the high levels of traffic where a median barrier prevents successful crossing. No project-related increase in traffic mortality is expected, and therefore, no substantial effects due to traffic mortality on California red-legged frogs would occur. New pavement and roadway lanes will be closer to existing California red-legged habitat north and west of Reina Del Mar Avenue, although the future edge of the roadway will be over 250 feet from frog breeding habitat and most frogs do not venture more than 200 feet from their aquatic habitat for foraging. Individual (juvenile) frogs could disperse onto SR 1 from breeding habitat near the Pacifica wastewater treatment ponds; however, due to the distance between the ponds and the roadway, impacts to dispersing California red-legged frogs are not anticipated to be substantially greater than the current condition.

The installation of retaining walls and the permanent small animal barrier along about 1,200 linear feet of the roadway (north of San Marlo Way) and a cantilever bridge at the culvert outflow will prevent red-legged frogs from reaching the road. Currently, the existing median presents a barrier to wildlife movement. The proposed retaining walls would keep frogs from reaching the roadway at these locations thereby preventing frog mortality. Therefore, the proposed retaining walls would not constitute a new substantial barrier that would affect California red-legged frog dispersal.

### *2.20.3.2 San Francisco Garter Snake*

**Habitat and Incidental Take**

The presence of San Francisco garter snakes is unlikely within the BSA and the project construction area. San Francisco garter snakes could occur within the BSA, due to past occurrence of the species on the site, the proximity to known established populations, the proximity of suitable habitat near restored ponds, Calera Creek, and Pacifica wastewater treatment ponds, and the suitable dispersal habitat within the western portions of the BSA, between Mori Point Road and San Marlo Way.[42] The closest known, extant populations are located approximately 0.5 miles to the northwest of the

[42] For clarification, the terms "unlikely" and "could occur" are used to relay that while the likelihood of occurrence is extremely low, the potential for the San Francisco garter snake to occur on certain portions of the project area is not zero, thus, a definitive statement regarding absence of the species cannot be made when taking into consideration other factors.

BSA. San Francisco garter snakes could rarely be found within the BSA, although the habitat found within the BSA is not high-quality foraging or dispersal habitat.

The project would not result in direct permanent or temporary effects to aquatic, riparian, or wetland habitats used by San Francisco garter snakes. Construction of the proposed project would disturb ruderal grassland and non-native woodland habitat between Mori Point Road and San Marlo Way that could be used for dispersal by garter snakes. The Narrow Median Build Alternative would result in permanent impacts to 6.81 acres of potentially occupied habitat and temporary impacts to 3.75 acres of potentially occupied habitat. This is the same area and habitat as the potentially occupied habitat for the California red-legged frog (refer to Figures 2.8 and 2.9). The Landscaped Median Build Alternative would result in an additional 0.27 acres of impact to dispersal habitat. No paving is proposed in temporary impact areas, and it is anticipated that habitat of equal value would be reestablished within one year following revegetation with native plant species.

Because San Francisco garter snakes can disperse across habitat within the western portion of the BSA, there could be loss of individual snakes during construction.

Construction of the proposed project will likely adversely affect the San Francisco garter snake through harassment, injury, mortality and habitat loss/degradation.

**Barriers to Movement**

As previously discussed in Section *2.16.2.2 Wildlife Corridors,* and in the California red-legged frog discussion above, SR 1 and the Calera Creek culvert under the roadway are substantial obstacles to snake dispersal to the east of SR 1. Movement is limited by both a median barrier in the roadway and the configuration of the Calera Creek culvert.

Under the proposed project, the paved width of SR 1 would increase and retaining walls would be installed along about 1,200 linear feet of the roadway, north of San Marlo Way except where a cantilever bridge will cross the culvert outflow. An additional permanent barrier will also be constructed approximately between 900 feet south of Mori Point Road and San Marlo Way to prevent small animal movement onto the roadway. This barrier will, in particular, be designed to impede or prevent San Francisco garter snakes from entering the roadway. New pavement would lengthen the distance snakes would need to travel to cross the road; however, the existing median barrier makes dispersal across SR 1 very unlikely. Currently, the existing median presents a barrier to wildlife movement. The proposed retaining walls would keep snakes from reaching the roadway at these locations, thereby preventing snake mortality. Therefore, the proposed retaining walls would not constitute a new substantial barrier that would affect San Francisco garter snake dispersal.

The installation of retaining walls and the permanent barrier along about 1,200 linear feet of the roadway (north of San Marlo Way) will add a new barrier at the edge of the road for San Francisco garter snakes attempting to disperse to the east or southeast. The retaining wall and barrier parallels the seasonal wetland and aquatic habitat of a drainage ditch just off-site where San Francisco garter snake could occur. Since the existing median already presents a barrier to movement and the proposed retaining walls and new barrier would keep snakes from reaching the roadway at these locations, thereby preventing snake mortality, the proposed retaining walls and new barrier would not constitute a new substantial barrier that would affect San Francisco garter snake populations.

#### *2.20.3.3 American Peregrine Falcon and Bank Swallow*

As previously described in Section *2.20.2 Threatened and Endangered Species, Affected Environment*, neither of these species nest in the BSA. Both the American peregrine falcon and bank swallow are very mobile species that will avoid or leave the project area if disturbed by project construction. Foraging habitat for these species is relatively abundant and widespread in the immediate vicinity of the BSA, and the project would not have a substantial effect on foraging habitat.

The proposed project will have no effect on the American peregrine falcon and bank swallow. The proposed project will likely adversely affect the California red-legged frog and San Francisco garter snake, but is not likely to jeopardize their continued existence.

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

The USFWS issued the BO for this project in January 2012, which confirms the above findings.

The mitigation measures listed below, which are included in the project, will avoid or offset impacts to threatened or endangered species.

#### *2.20.4.1 California Red-legged Frog*

**MM T&E-1.1:** **Minimize Nighttime Work.** To the extent practicable, nighttime construction will be minimized to avoid effects to nocturnally active listed species. When necessary in areas adjacent to California red-legged frog habitat, work lights will be directed away from adjacent habitat areas.

**MM T&E-1.2:** **Exclusion Barrier.** Wildlife exclusion fencing (WEF) shall be installed prior to the initiation of construction activities to exclude California red-legged frogs from the construction area. The WEF will consist of silt-fencing, plywood, or suitable material at least 36 inches high that is buried six (6) inches deep in the ground, or sealed in a like manner, to prevent incursion under the fencing. In addition, at the end of each fencing segment, the WEF will be installed to curve back away from the roadway. WEF will be located along the edge of construction impact areas wherever they are within 300 feet of Calera Creek or the off-site ditch that parallels southbound SR 1, northeast of San Marlo Way and south of Calera Creek (refer to Figures 1.4 and 1.5). Special care will be taken to exclude frogs from entering the project area from the culvert outflow aquatic habitat during construction. The final project plans will show how the WEF will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing material and proper WEF installation and maintenance.

**MM T&E-1.3:** **Pre-construction Survey.** Prior to installation of the WEF, a preconstruction survey shall be conducted by a qualified biologist in the portions of the BSA where equipment and construction activities will be located. Additionally, a qualified biologist shall monitor the installation of the WEF to ensure that no California red-legged frogs are trapped within the construction area or harmed during installation. A post-installation survey shall be conducted to

confirm the absence of frogs within the WEF. Any California red-legged frog found within the construction area (i.e., inside the WEF) will be relocated by the approved biologist to a safe location west of the BSA, which is preapproved by the USFWS and within Calera Creek or the Pacifica wastewater treatment ponds.

**MM T&E-1.4:** **Construction Area Delineation.** The boundaries of the project shall be clearly delineated with orange-colored plastic construction fencing (ESA) to prevent workers or equipment from inadvertently straying from the designated construction area. All construction personnel, equipment, and vehicle movement shall be confined within the designated construction, access, and staging areas. This fencing will be installed concurrently with or after the WEF and will be located on the construction side of the WEF. The ESA fencing will remain in place throughout the duration of the project, while construction activities are ongoing and will be regularly inspected and fully maintained at all times. The final project plans will depict all locations where ESA fencing will be installed and how it will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs.

**MM T&E-1.5:** **Construction Worker Education Program.** Before any construction activities begin, a qualified biologist will conduct a training session with construction personnel to describe the California red-legged frog, its habitat, its conservation status, the specific measures being implemented to minimize effects to the species, and the boundaries of the project area.

**MM T&E-1.6:** **Avoidance of Entrapment.** To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than one-foot deep will be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled they must be thoroughly inspected for trapped animals. All replacement pipes, culverts, or similar structures stored in the action area overnight will be inspected before they are subsequently moved, capped and/or buried. If at any time a listed species is discovered, the Resident Engineer and Service-approved biologist will be immediately informed.

**MM T&E-1.7:** **Inspection and Discovery.** Prior to the start of work each day, a qualified biologist, serving as a Biological Monitor, shall inspect the integrity of the WEF to ensure no holes or damage, and the area within the construction zone, focusing on pits that were left open overnight and under equipment and materials. After this time, a biological monitor shall be designated to monitor on-site compliance with all avoidance and minimization measures. The biologist shall ensure that this designated biological monitor receives training as outlined above in MM T&E 1.5 and in the identification of California red-legged frogs and San Francisco garter snakes. The designated biological

monitor shall conduct daily inspections prior to the start of work each day as described above.

If a frog of any kind that could be a California red-legged frog is encountered during project construction, the following protocol will be implemented:

- The Resident Engineer will be notified.
- The Resident Engineer will ensure that all work that could result in direct injury, disturbance, or harassment of the individual animal must immediately cease.
- The approved-biologist, who will be on-site monitoring construction, will identify the species and may remove the individual to a preapproved safe location nearby, if necessary.

**MM T&E-1.8:** **Compensatory Mitigation for Habitat Impacts.** As described above, all vegetated habitat in the BSA between Mori Point Road and San Marlo Way is potential dispersal habitat for California red-legged frogs. Approximately 6.81-7.08 acres of potential upland dispersal habitat will be permanently affected by the project, depending on the Build Alternative selected, and approximately 3.75 acres will be temporarily affected during construction.

To offset the approximately 6.81-7.08 acres of potential upland dispersal habitat that will be permanently affected by the project, depending on which Build Alternative is chosen, and the approximately 3.75 acres that will be temporarily affected during construction, the project proposes a mitigation package in cooperation with the Golden Gate National Recreation Area (GGNRA). The GGNRA staff has agreed in concept to this mitigation proposal; however, specific details will need to be approved by the National Park Service (NPS), who owns and manages the GGNRA. The proposed concept is to enhance a 5.14-acre parcel owned by the City of Pacifica that is west of the Pacifica waste water treatment plant and south of the GGNRA. This parcel is just north of the ponds that were created next to Calera Creek as San Francisco garter snake habitat and that also provide breeding habitat for California red-legged frogs. The parcel is also at the base of the ridgeline that separates habitat in Calera Creek and its associated ponds from the next closest aquatic habitat to the north that is along the northern perimeter of the GGNRA parcel and the southern edge of the Sharp Park Golf Course. Enhancements would primarily consist of removal and management of invasive plants and replacement with grassland/shrub habitat. Portions of the parcel could also be enhanced with micro-depressions and rock and/or woody debris. In addition, enhancements could also include one or two seasonal or ephemeral pond(s).

In addition to enhancement of the 5.14 acres of upland habitat, the upland habitat will also be enhanced from the preserved parcel, over the hill within the GGNRA (approximately 5.46 acres in size), and down to a bowl area adjacent to GGNRA California red-legged frog breeding ponds (see Figure 2.10). The enhancements will include depressions to collect water and downed woody debris and rocks to preserve moisture and provide cover for

California red-legged frogs. These enhancements will improve the dispersal habitat over the ridgeline by providing protection and moisture for dispersants and allow for increased connectivity of aquatic habitats. This is particularly important in that most of the aquatic habitat north of the ridgeline is generally ephemeral except for water features on the active golf course and the aforementioned GGNRA California red-legged frog breeding ponds. The enhancements will better connect the perennial aquatic breeding habitat for the California red-legged frog in Calera Creek south of the ridgeline with the GGNRA ponds north of the ridgeline. . Exchange between the habitat areas over the ridge is particularly important in drought years and if stochastic events result in population declines in one or the other population area. The enhancements will also improve the dispersal habitat in drought years or after drought years when population expansion or recolonization is important. They will also improve California red-legged frog foraging habitat.

The GGNRA mitigation site for the project is off-site but nearby and is depicted on the Figure 2.10. The potential effects of enhancements at this mitigation site were also considered. The mitigation site is expected to support California red-legged frogs that are foraging, migrating, or dispersing. While the enhancements planned will be beneficial to the California red-legged frogs, it is possible that there could be an effect on California red-legged frogs, if any are present, during the construction of the enhancement features. The avoidance and minimization measures described above that are applicable and will not cause more harm than benefit will be implemented. Installation of WEF and ESA fencing will cause damage to sensitive and steeply sloping habitat, and thus, these measures will not be implemented during enhancement activities at the mitigation site. However, the following measures are included as part of the project mitigation and will minimize effects to California red-legged frogs during construction of the enhancement features.

**Measure 1: Pre-construction Survey and Construction Monitoring of Mitigation Enhancement Installation.** Prior to installation of enhancement features in the mitigation area, a pre-construction survey will be conducted by a qualified biologist in the portions of the mitigation area where equipment and construction activities will be located. Additionally, a qualified biologist will monitor during development and enhancement of the mitigation area, searching the path and placement locations immediately before equipment is moved or workers advance. California red-legged frogs found within the construction area may be relocated by the approved biologist to a safe location nearby, preapproved by the USFWS, if necessary.

**Measure 2: Construction Area Limitation.** All construction personnel, equipment, and vehicle movement shall be confined within the minimum construction, access, and staging areas necessary for construction.

**and** Before any construction activities begin, a qualified biologist will conduct a training session with construction personnel to describe the

California red-legged frog, its habitat, its conservation status, the specific measures being implemented to minimize effects to the species, and the boundaries of the project area.

**Measure 4: Inspection and Discovery.** While on-site in compliance with Measure 1, a qualified biologist, serving as a Biological Monitor, will inspect the areas within the construction zone, focusing in pits and under equipment and materials left overnight. If a frog thought to be a red-legged frog is encountered during project construction, the following protocol will be implemented:

- The Resident Engineer will be notified.
- The Resident Engineer will ensure that all work that could result in direct injury, disturbance, or harassment of the individual animal must immediately cease.
- The approved-biologist, who will be on-site monitoring construction, will identify the species and may remove the individual to a preapproved safe location nearby, if necessary.

As a part of the project, areas of temporary habitat loss shall be seeded with native plants to reestablish habitat of equal value within five years of construction.

*Alternate Contingency Plan for Compensatory Habitat Mitigation*

In the unforeseeable event that the proposed mitigation concept cannot be implemented for habitat impacts, alternative mitigation will be provided to compensate for unavoidable impacts to potential California red-legged frog and San Francisco garter snake dispersal habitat. Such mitigation will be provided via the protection, enhancement, and management of habitat that currently supports, or can support, this species at a minimum 2:1 (mitigation:impact) ratio, on an acreage basis. Compensatory mitigation may be carried out through one or both of the following methods, in order of preference:

- The preservation, management, and enhancement (e.g., through long-term management targeted toward these species) of high-quality habitat that is already occupied by California red-legged frogs and San Francisco garter snakes.

- The restoration or enhancement (and subsequent preservation) of degraded habitat or habitat that is unsuitable for use by California red-legged frogs and San Francisco garter snakes, but that (a) is in close proximity to areas of known occurrence and (b) can be made more suitable for use via construction of one or more breeding ponds or management to improve the quality and availability of upland habitat.

A Habitat Mitigation and Monitoring Plan (HMMP) will be developed describing the measures that will be taken to manage the property and to

monitor the effects of management on the California red-legged frog and San Francisco garter snake. That plan will include, at a minimum, the following:

- A summary of impacts to California red-legged frog and San Francisco garter snake habitat and populations, and the proposed mitigation;
- A description of the location and boundaries of the mitigation site and description of existing site conditions;
- A description of measures to be undertaken if necessary to enhance (e.g., through focused management) the mitigation site for California red-legged frogs and San Francisco garter snakes;
- Proposed management activities, such as managed grazing, management of invasive plants, measures targeted at sustaining populations of burrowing mammals, or other measures to maintain high-quality habitat for California red-legged frogs and San Francisco garter snakes;
- A description of species monitoring measures on the mitigation site, including specific, objective goals and objectives, performance indicators, success criteria, monitoring methods, data analysis, reporting requirements, and monitoring schedule;
- A description of the management plan's adaptive component, including potential contingency measures for mitigation elements that do not meet performance criteria; and
- A description of the funding mechanism to ensure the long-term maintenance and monitoring of the mitigation lands.

Although none are currently available, if mitigation bank credits for preservation and enhancement of habitat for the San Francisco garter snake and California red-legged frog become available, and the service area of the mitigation bank includes the project site, mitigation bank credits equivalent to the 2:1 mitigation ratio described above may be purchased to satisfy the mitigation requirement. Because there are no mitigation credits currently available, the mitigation option has to be postponed until the opportunity to purchase mitigation bank credits becomes available.

**MM T&E-1.9:** **Consultation with the USFWS.** Take of California red-legged frogs is only permitted through consultation with the USFWS. Section 7 consultation with the USFWS has been completed.

### *2.20.4.2 San Francisco Garter Snake*

**MM T&E-2.1--2.6:** The same mitigation measures as described above for the California red-legged frog (MM T&E-1.1 through MM T&E-1.6) will be required for potential impacts to individual San Francisco garter snakes and their habitat.

**MM T&E-2.7:** **Inspection and Discovery.** Prior to the start of work each day, a qualified biologist, serving as a Biological Monitor, shall inspect the integrity of the WEF to ensure no holes or damage , and the areas within the construction zone, focusing on pits that were left overnight and under equipment and

materials. After this time, a biological monitor shall be designated to monitor on-site compliance with all avoidance and minimization measures. The biologist shall ensure that this designated biological monitor receives training as outlined above in Measure 2.4 and in the identification of San Francisco garter snakes. The designated biological monitor will conduct daily inspections prior to the start of work each day as described above.

If a garter snake of any kind is encountered during project construction, the following protocol will be implemented:

- The Resident Engineer will be notified.
- The Resident Engineer will ensure that all work that could result in direct injury, disturbance, or harassment of the individual animal must immediately cease.
- The approved-biologist, who will be on-site monitoring construction, will identify the species and will allow the individual snake to leave on its own accord.

**MM T&E-2.8:** **Compensatory Mitigation for Habitat Impacts.** All vegetated habitat in the BSA between Mori Point Road and San Marlo Way is potential dispersal habitat for San Francisco garter snakes. The compensatory mitigation for the San Francisco garter snake is for the same affected habitat as the California red-legged frog. Therefore, the same mitigation that is proposed for the California red-legged frog is also appropriate for San Francisco garter snake, including measures to be implemented during construction (refer to MM T&E 1.1-1.7 above) and the compensatory mitigation for habitat (refer to MM T&E 1.8 above).

As noted above, the GGNRA staff has agreed in concept to this mitigation proposal although details will need to be worked out to reach an agreement on the mitigation plan with NPS, who owns and manages the GGNRA. Enhancement of the five acre parcel at the base of the saddle over the ridge at the Mori Point GGNRA facility and enhancement of habitat over that saddle will also benefit the San Francisco garter snake.

As a part of the project, areas of temporary habitat loss shall be seeded with native plants to reestablish habitat of equal value within one year of construction.

**MM T&E-2.9:** **Consultation with the USFWS.** Take of San Francisco garter snakes is only permitted through consultation with the USFWS. Section 7 consultation with the USFWS has been completed.


PROPOSED MITIGATION AREAS

FIGURE 2.10

## 2.21 INVASIVE SPECIES

### 2.21.1 Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the state's noxious weed list to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project.

### 2.21.2 Affected Environment

Several invasive plant species are present within or adjacent to the BSA, including five noxious, invasive species of importance within the BSA (see Table 2.18). These species, lollipop tree, cape-ivy, French broom, pampas grass, and sweet fennel, dominate the roadway embankments along SR 1, ruderal grassland habitat, and land adjacent to development. Lollipop trees dominate the overstory of the roadside ditch located along southbound SR 1 and Cape-ivy occurs along Calera Creek east of SR 1. These five noxious and invasive species are very difficult to eradicate.

**TABLE 2.18**
**LIST OF INVASIVE PLANT SPECIES**
**OBSERVED IN THE BIOLOGICAL STUDY AREA**

| **Common Name** | ***Scientific Name*** | **Habitat Where Species Observed in the BSA** | **Ecological Impact** | **Invasive Potential** |
|---|---|---|---|---|
| Cape ivy | *Delairea odorata* | Ruderal riparian | A | A |
| French broom | *Genista monspessulana* | Scrub and grassland habitats; developed areas | A | A |
| Monterey cypress | *Cupressus macrocarpa* | Ruderal riparian | B | B |
| Lollipop tree | *Myoporum laetum* | Scrub and grassland habitats; wetland and riparian | B | B |
| Pampas grass | *Cortaderia jubata/C. selloana* | Scrub and grassland habitats[1] | A | A |
| Periwinkle | *Vinca major* | Ruderal riparian | B | B |
| Prickly ox-tongue | *Picris echioides* | Ruderal grassland, ruderal wetland | C | B |
| Ripgut brome | *Bromus diandrus* | Ruderal grassland | B | B |

| | | | | |
|---|---|---|---|---|
| Sweet fennel | *Foeniculum vulgare* | Scrub and grassland habitats; developed areas | A | B |
| Wild oats | *Avena fatua* | Ruderal grassland | B | B |
| Wild teasel | *Dipsacus fullonum* | Ruderal grassland | B | B |
| Yellow star-thistle | *Centaurea solstitialis* | Ruderal grassland | A | B |
| | Notes:A = Severe B = Moderate C = Limited<br>Ratings derived from California Invasive Plant Council Website: http:www.cal-ipc.org/ip/inventory/weedlist.php\<br><br>1 – Pampas grass grows in very dense clumps that are relatively impenetrable at the center and occupy area where California red-legged frog cannot forage, resulting in the reduction of the available foraging habitat and possibly impeding dispersal across the site (e.g., from source populations along Calera Creek to the parallel ditch).<br><br>**Source:** State Route 1/Calera Parkway Project, Natural Environment Study and addenda, January 2009-2011. | | | |

### 2.21.3 Environmental Consequences

The proposed project would require the removal of lollipop trees from the construction area. This tree can re-sprout or grow from seedlings.

None of the species on the California list of noxious weeds is currently used by the Department for erosion control or landscaping in San Mateo County.

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

**AM INV-1:** In compliance with the Executive Order on Invasive Species, E.O. 13112, and subsequent guidance from the Federal Highway Administration, the landscaping and erosion control included in the project will not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

Inspection and cleaning of construction equipment is of particular importance when removing embankment material northwest of Reina Del Mar Avenue.

**AM INV-2:** Prior to grading, infested areas will be cleared of vegetation and all vegetative material destroyed off-site, taking care to prevent any seed dispersal in the process.

**AM INV-3:** Native local seed (within the same watershed if practicable) from a seed distributor will be planted and/or hydroseeded on all disturbed ground.

**AM INV-4:** All areas of ground disturbance within the project area will be monitored and maintained for a period of at least five years following project implementation to prevent the invasion by these weed species.

## 2.22 CONSTRUCTION IMPACTS

As described in Section 1.*3.3 Project Schedule and Construction,* the duration of construction is estimated to be approximately two years. The proposed improvements would be constructed in several stages. The proposed staging area is located along the west side of SR 1, approximately 600 feet south of Reina Del Mar Avenue, within the state right-of-way. Construction equipment used on this project would include scrapers, bulldozers, backhoe loaders, cement trucks, cranes, and asphalt/paving/concrete equipment.

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

#### *2.22.1.1 Short-Term Effects/Street Closures*

Except for temporary off-peak lane closures, the same number of traffic lanes will be maintained on SR 1 and local streets during the construction period, which is estimated to last for more than two years. Narrowed lanes on SR 1 through the construction zone will be likely during several phases of construction, and at times the roadway will be temporarily shifted to allow work on other portions.

Prior to construction, a Transportation Management Plan (TMP) will be prepared. The TMP will address all traffic-related aspects of construction including, but not limited to, the following: traffic handling in each stage of construction, pedestrian safety/access, and bicycle safety/access. A component of the TMP will involve public dissemination of construction-related information through notices to the neighborhoods, press releases, and the use of changeable message signs.

#### *2.22.1.2 Effects on Businesses During Construction*

No roadway or driveway access to businesses will be severed during the construction of the project.

### 2.22.2 Water Quality

#### *2.22.2.1 Short-Term Effects During Construction*

The project will involve excavation and grading activities for the purpose of constructing the new lanes and intersection modifications. These activities have the potential to degrade water quality in the form of sedimentation, erosion, and fuels/lubricants from equipment. At this location, the water quality of various creeks could be affected by construction activities because most of the storm drains discharge into the creeks. Since these creeks support numerous wildlife and plant species, a short-term degradation of water quality could adversely affect such species. However, with incorporation of the avoidance and minimization measures described below, indirect effects to species in the vicinity of the project would be avoided.

### *2.22.2.2 Avoidance, Minimization, and/or Mitigation Measures*

In order to avoid/minimize the potential to degrade water quality, the project shall implement the following avoidance and minimization measures:

**AM CON-1.1:** Best Management Practices (BMPs) will be utilized by the contractor(s) during construction. The BMPs will be incorporated into a Storm Water Pollution Prevention Plan for the project, as required by the Caltrans NPDES permit. The SWPPP will emphasize: 1) standard temporary erosion control measures to reduce sedimentation and turbidity of surface run-off from disturbed areas; 2) personnel training; 3) scheduling and implementation of BMPs throughout the various construction phases and during various seasons; 4) identification of BMPs for non-storm water discharge such as fuel spills; and 5) monitoring throughout the construction period.

**AM CON-1.2:** Soil Stabilization Measures The following soil stabilization minimization measures are included in this project:

- High Visibility Plastic Fencing will be placed along the perimeter of all ESAs and additional vegetation that need not be disturbed by construction including the mature trees at the south east quadrant of Fassler Avenue and SR 1 as well as all of the vegetated area west of the retaining walls on the western side of SR 1 between San Marlo Way and Reina Del Mar Avenue. Both areas will be designated on the project plans as outside of limits of work and/or ESAs.
- Temporary Fiber Rolls will be placed along slope length contours to prevent erosion along slopes.

**AM CON-1.3:** Sediment Control Measures Temporary cover of disturbed surfaces or temporary slope protection measures will be provided per regulatory requirements and Caltrans' guidelines to help control erosion. The following sediment control measures are included in this project:

- Temporary silt fences will minimize both sediment-laden sheet flows and concentrated flows from discharging offsite.
- Temporary fiber rolls will be utilized in order to intercept sheet flow run-off and minimize run-on upslope of the project.

**AM CON-1.4:** Tracking Controls The project involves the movement of dirt by construction equipment adjacent to public roadways. In order to prevent the tracking of mud and dirt offsite, stabilized construction entrances/exits will be placed at multiple points throughout the project area. Street sweeping will also be utilized to remove tracked sediment.

## 2.22.3 Air Quality

### *2.22.3.1 Short-Term Effects During Construction*

Construction-related emissions are generally short-term in duration but may still cause adverse air quality impacts unless proper emission control measures are implemented.

Construction activities such as earthmoving, excavation and grading operations, construction vehicle traffic and wind blowing over exposed earth will generate exhaust emissions and fugitive particulate matter emissions that would affect local and regional air quality. Construction activities are also a source of organic gas emissions. Asphalt used in paving is a source of organic gases for a short time after its application. Solvents in adhesives, non-waterbased paints, and thinners would also evaporate into the atmosphere and would participate in the photochemical reaction that creates urban ozone. Many types of construction equipment emit diesel exhaust, which is known to result in adverse health effects.

Fine particulate matter ($PM_{10}$ and $PM_{2.5}$) is the pollutant of greatest concern with respect to construction activities.[43] $PM_{10}$ emissions can result from a variety of construction activities, including excavation, grading, demolition, vehicle travel on paved and unpaved surfaces, and vehicle and equipment exhaust. Construction-related emissions can cause substantial increases in localized concentrations of $PM_{10}$. Particulate emissions from construction activities can lead to adverse health effects as well as nuisance concerns such as reduced visibility and soiling of exposed surfaces. Construction dust could affect local air quality at various times during construction of the project. The dry, windy climate of the area during the summer months creates a high potential for dust generation when and if underlying soils are exposed to the atmosphere.

The effects of construction activities would be increased dustfall and locally elevated levels of $PM_{10}$ and $PM_{2.5}$ downwind of construction activity. Construction dust has the potential for creating a nuisance at nearby properties, and may constitute a health effect for children or persons with chronic health problems.

Standard Caltrans construction management practices are adequate to assure that associated air quality impacts will be minimal. These include requiring emission controls on construction equipment and spraying water on exposed surfaces to minimize dust.

### *2.22.3.2 Avoidance, Minimization, and/or Mitigation Measures*

The following avoidance and minimization measures will be implemented by the project for the purpose of avoiding/minimizing air quality effects during construction:

**AM CON-1.5:** During construction, the project will follow Caltrans Standard Specification 7-1.01F, Standard Specification 10, and Standard Specification 18, which address dust control and dust palliative application, respectively.

[43] Construction equipment emits carbon monoxide and ozone precursors. However, these emissions are included in the emission inventory that is the basis for regional air quality plans, and are not expected to impede attainment or maintenance of ozone and carbon monoxide standards in the Bay Area.

**AM CON-1.6:** The project will implement all feasible $PM_{10}$ construction emissions control measures in Table 2.19.

**TABLE 2.19**
**FEASIBLE CONTROL MEASURES FOR CONSTRUCTION EMISSIONS OF $PM_{10}$**

**Basic Control Measures.** The following controls will be implemented at all construction sites.

- Water all active construction areas and exposed surface areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two (2) feet of freeboard.
- Pave, apply water three times daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites. Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

**Enhanced Control Measures.** The following measures will be implemented at construction sites greater than four acres in area.

- Hydroseed or apply (nontoxic) soil stabilizers to inactive construction areas (i.e., previously graded areas inactive for 10 days or more).
- Enclose, cover, water twice daily, or apply (nontoxic) soil binders to exposed stockpiles (e.g., dirt and sand).
- Limit traffic speeds on unpaved roads to 24.1 kilometers per hour (15 miles per hour). Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.

**Optional Control Measures.** The following control measures are strongly encouraged at construction sites that are large in area, located near sensitive receptors, or for any other reason may warrant additional emissions reductions, but the project sponsor is not required to implement.

- Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- Install windbreaks or plant trees or vegetative wind breaks at windward side(s) of construction areas.
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.
- Limit the area subject to excavation, grading, and other construction activity at any one time.

**Source:** Assessing the Air Quality Impacts of Projects, BAAQMD, December 1999.

## 2.22.4 Noise and Vibration

### *2.22.4.1 Short-Term Effects During Construction*

Project construction activities along SR 1 would occur near residential land uses on both sides of the project alignment. At times, construction activities under either Build Alternative could be within 50 feet of these noise-sensitive uses. Phases anticipated during project construction would include clearing and grubbing, earthwork, paving, and the construction of structures (including pile driving). Each construction phase would require a different combination of construction equipment and different intensities of use of such equipment.

Construction activities associated with this project could include roadway widening and the construction of retaining walls. Highway construction activities do not typically stay in one location for long periods. Noise-sensitive receivers in a given location would not be exposed to noise generated by construction for extended periods. Table 2.20 summarizes typical noise levels generated by construction equipment at a distance of 50 feet. Noise generated by construction equipment drops off at a rate of six (6) dB per doubling of distance.

Highway construction activities typically occur for relatively short periods of time as construction proceeds along the project's alignment. Construction noise would mostly be of concern in areas where impulse-related noise levels from construction activities would be concentrated for extended periods of time, where noise levels from individual pieces of equipment are substantially higher than ambient conditions, or when impulse-related noise levels occur during noise-sensitive night-time hours.

**TABLE 2.20**
**CONSTRUCTION EQUIPMENT NOISE LEVELS AT 50 FEET**

| Construction Phase | Maximum Noise Level (Lmax dBA) | Hourly Average Noise Level (Leq dBA) |
|---|---|---|
| Clear and Grub | 81 | 79 |
| Earthwork | 82 | 84 |
| Paving | 85 | 85 |
| Structures (with pile driving) | 101 | 95 |
| Structures (without pile driving) | 83 | 84 |

**Source**: Illingworth & Rodkin, 2009-2010.

Ambient traffic noise levels at unshielded locations approximately 50 feet from the centerline of SR 1 are on average about 77 dBA Leq (hr) during the day and about 62 dBA Leq (hr) at night. As indicated above in Table 2.20, most construction phases would generate average noise levels that would be about five to 13 dBA Leq (hr) higher than ambient day-time or night-time traffic noise. Maximum noise levels generated by construction would generally be at or below existing maximum noise levels generated by traffic with the exception of construction phases excluding the use of a hoe ram or impact pile driver.

Construction of the project is anticipated to occur primarily during daytime hours. During the daytime, ambient traffic noise levels are on average about 77 dBA Leq (hr) at the nearest unshielded locations. Construction activities proposed by the project would generate noise levels above ambient average daytime traffic noise levels when these activities occur within approximately 90 feet of existing sensitive receivers.

#### *2.22.4.2 Avoidance, Minimization, and/or Mitigation Measures*

To reduce the potential for noise effects resulting from project construction, the following standard avoidance and minimization measures will be implemented during project construction. The proposed measures will reduce the noise effect at adjacent residences.

**AM-CON 1.7:** Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

**AM-CON 1.8:** Unnecessary idling of internal combustion engines within 100 feet of residences shall be strictly prohibited.

**AM-CON 1.9:** Avoid staging of construction equipment within 200 feet of residences and locate all stationary noise-generating construction equipment, such as air compressors and portable power generators, as far practical from noise sensitive residences.

**AM-CON 1.10:** All construction equipment shall be required to conform to Section 7-1.01I – Sound Control Requirements of the latest Standard Specifications.

**AM-CON 1.11:** Avoid nighttime construction work within 225 feet of sensitive land uses where feasible.

**AM-CON 1.12:** Demolition and pile driving activities shall be limited to day-time hours only. If night-time, impulsive work is required, implement a construction noise-monitoring program and provide additional measures as necessary (in the form of noise control blankets or other temporary noise barriers, etc.) for affected receivers.

## 2.23 CUMULATIVE IMPACTS

### 2.23.1 Regulatory Setting

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

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

CEQA Guidelines, Section 15130, describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under CEQA, can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts, under NEPA, can be found in 40 CFR, Section 1508.7 of the CEQ Regulations.

### 2.23.2 Impacts

In a cumulative impacts analysis, the identification of "past, present, and reasonably foreseeable future actions" can utilize either the "list approach" or the "adopted plan" approach. The list approach identifies specific cumulative projects in the vicinity, typically provided by a local planning department. The adopted plan approach relies on build out under a general plan or transportation plan or other planning document, which by definition accounts for cumulative growth in a defined area.

For this analysis, the adopted plan approach is utilized as it is compatible with the nature of the proposed infrastructure project, which is to accommodate projected transportation demand over the long term. The proposed improvements have been designed to provide an appreciable traffic benefit for at least 20 years, in accordance with Caltrans design policy. As examples, the traffic model that was utilized to project future build and no build conditions is based on the planned growth of the area, as contained in the adopted general plan of Pacifica and the surrounding cities. The cumulative analysis also included projections from future development planned for in the approved general plans of the cities in San Mateo County, and also accounted for planned growth in the region as well as planned improvements to the transportation network. The traffic projections from cumulative growth were also used in the quantification of noise, air quality, and climate change impacts.

In addition to the adopted plan approach, this analysis also included consideration of specific "reasonably foreseeable" future projects (i.e., current near-term active projects on file with the City of Pacifica). These projects are listed in the Table 2.23 below.

**TABLE 2.23**
**NEAR-TERM ACTIVE PROJECTS IN CITY OF PACIFICA**

| Project Title | Type | Location | APN | Status |
|---|---|---|---|---|
| "The Bowl" | Detached and Attached Condos | N. End of Palmetto | 009-402-260 | Planning Permits App. |
| Hillside Meadows | Single Family Detached | Adobe at Higgins Way | 023-361-160 | Application Incomplete |
| Vistamar Development | Townhouses | 503-511 Monterey | 009-381-010 | Application Incomplete |
| 1567 Beach Boulevard | Condos | 1567 Beach Boulevard | 016-011-190 | Planning Permits App. |
| The Prospects | Condos | Fassler Ave. | 022-083-020 &-030 | PC and CC Approved |
| Harmony @ 1 | 13-lot subdivision | Fassler Ave, at Roberts Road | 022-150-310,-420,-030 | Final Parcel Map Pending |
| Gypsy Hill | 8-lot subdivision | Gypsy Hill Rd/Clarenden Rd | 016-421-030 | Application Incomplete |
| Assisted Living | Senior Assisted Living | 721 Oddstad Blvd. | 023-593-160 | Appealed to City Council |
| 1335 Adobe | Condos | Adobe at Linda Mar | 023-222-080 | Incomplete Application |
| Mixed-Use Building | 2 Retail/ 3 Residential | 2270-2286 Palmetto | 016-294-570 | Under Construction |
| The Surf Spot | Restaurant | 4627 Coast Highway | 022-150-170 | Under Construction |
| Holiday Inn Express | 44 New Rooms | 519 Nick Gust Way | 022-024-250, 270 | Application Incomplete |

Source: City of Pacifica. Planning Department Website, Commercial and Residential Development List. December 2011. Available at: http://www.cityofpacifica.org/civica/filebank/blobdload.asp?BlobID=4679

It should be noted that as part of the EIR Notice of Preparation process, a comment letter was received from the attorneys representing the property owners of a 57 acre parcel along the project alignment between Fassler Avenue and Reina Del Mar (APN 018-140-62), who indicated that there is a development proposal in the planning stages for this parcel. The exact development entitlements being sought are not known at this time, however, it is envisioned that the site may include "various civic improvements such as a convention center, city hall, and/or other government buildings or offices."[44]

The discussion, below, addresses environmental resource areas where the proposed project would result in an impact, because with the individual impact, there is potential for a cumulative impact. Environmental resource areas not impacted by the proposed project were not addressed because if

[44] Pascuzzi, Moore & Stoker, A Professional Corporation. Letter to Joseph Hurley, Director of Transportation Programs, San Mateo County Transportation Authority, July 21, 2010.

there is no individual impact, no considerable contribution to cumulative impacts can occur. Examples of the latter include cultural resources, geology, floodplains, energy, and farmlands.

### *2.23.2.1 Traffic*

#### Resource Study Area

For traffic, the Resource Study Area (RSA) was defined as the area within the project limits, as well as the surrounding area where the project will result in measurable changes in traffic patterns. Thus, the RSA includes the freeway segments, arterial streets, and intersections identified in the tables shown in Section 2.6.

#### Health and Historical Context

State Route 1 (SR 1) is a north-south roadway that extends along the California coastline. In Pacifica, near the study area, SR 1 widens to four lanes. Just north of the study area, SR 1 becomes a freeway for a short segment before merging with Interstate 280. Fassler Avenue and Reina Del Mar Avenue are two-lane roadways that extend east of SR 1. A number of residential streets connect to Fassler Avenue and Reina Del Mar Avenue, which provides access to SR 1.

SR 1 is a regional facility that serves other areas, besides the city of Pacifica, and as such, the traffic on SR 1, including future traffic, comes from other areas in the region, outside of Pacifica. Within the study area, SR 1 experiences peak period congestion in the northbound direction during the morning peak periods and in the southbound direction in the evening. Fassler Avenue experiences congestion in the westbound direction (approaching SR 1) in the morning peak period. In the morning peak period, substantial queuing occurs on Reina Del Mar Avenue from parents departing the Vallemar Elementary school after dropping off students.

#### Cumulative Impacts

Traffic on SR 1, Fassler Avenue, Reina Del Mar Avenue, and in the project area as a whole, is currently congested during the morning and evening commute periods. Future increases are projected to occur due to regional growth, which will exacerbate existing congestion issues. The improvements that would be constructed under either Build Alternative would not contribute toward this increase in traffic volumes; rather, they would improve traffic operations for these vehicle trips, as further described in Section 2.6. The proposed project would not itself generate traffic. Therefore, neither Build Alternative would substantially affect the operations of other roadway segments beyond the immediate project site area nor substantially affect the operations of local streets in the area. Given that under the year 2015 and 2035 conditions, the proposed Build Alternatives would not directly generate additional traffic trips or change the overall distribution of trips in the site area, the project is not anticipated to contribute to substantial cumulative traffic changes when combined with other reasonably foreseeable projects in the vicinity, as listed above.

Permanent neighborhood circulation disruption would not occur as a result of the reasonably foreseeable cumulative projects since the development is generally consistent with the future land use plans of the local jurisdictions. Site-specific effects related to circulation and access have been or will be addressed through local project review processes, and appropriate minimization measures have been or will be identified in order to comply with CEQA and/or NEPA.

### *2.23.2.2 Visual/Aesthetics*

**Resource Study Area**

The specific visual environment upon which the *Visual Impact Assessment* for the proposed project was based was determined by defining landscape units and the project viewshed. Landscape units within the project area include: Southbound SR 1; Rockaway Beach/Pacific Ocean; Rockaway Quarry; and Reina Del Mar. The RSA for visual impacts was defined as the SR 1 segment within the project limits, as well as those adjacent areas where the roadway improvements would be visible from various public vantage points.

**Health and Historical Context**

The visual quality of the Southbound SR 1 landscape unit varies from moderately high in the southern portion to moderately low in the northern portion. The higher quality in the southern portion is due to the open space and hillsides with distant views of the coast on the west and the Rockaway Headlands to the south. The commercial and residential development at the intersection of Fassler Avenue/Rockaway Beach Avenue lowers the unity because the built environment is not compatible with the landscape. The Rockaway Beach/Pacific Ocean landscape unit has a moderate level of visual quality. The distant natural features of the viewshed are vivid, but the presence of the commercial and residential development at the intersection of Fassler Avenue/Rockaway Beach Avenue detracts from the natural features of the unit, which lowers the intactness of the landscape. The Rockaway Quarry landscape unit possesses moderately high visual quality. The open space and distant foothills are the dominant unifying features of this landscape. The existing visual quality of the Reina Del Mar landscape unit is moderately low due to the incompatibility of the built environment with the landscape.

Portions of SR 1 throughout the state are officially designated by Caltrans as a scenic highway; the proposed project segment, however, is categorized as eligible for the "state scenic highway" designation, but is not currently designated as such.[45] The SR 1 roadway itself is dominated by hardscape; the facility includes four travel lanes, a concrete barrier median, and paved shoulders. There are mature trees along portions of the roadway, however, including near the former Pacifica quarry and at the Calera Creek undercrossing. The City's General Plan includes policies which are relevant to the proposed project regarding viewshed protection for the corridor.

**Cumulative Impacts**

As discussed in Section *2.7 Visual/Aesthetics*, either of the two Build Alternatives would remove several mature landscape trees along the western side of SR 1, between San Marlo Way and Reina Del Mar Avenue. This change will be visible from the roadway itself, as well as from many locations on the east side of SR 1. It should be noted that while the Build Alternatives would result in the removal of these trees, which are a visual resource along the alignment, removal of these trees would also improve the views of the coastal areas from locations east of SR 1.

In general, the relative scale of this specific project will not detract from the quality of the total visual environment. The regional landscape can accommodate the proposed additional pavement width, earthwork, and tree loss associated with this project without losing much noticeable visual quality.

[45] http://www.dot.ca.gov/hq/LandArch/scenic_highways/, May 18, 2009.

Even though visual impacts along the project corridor may be generally minor, an important consideration is the cumulative impacts to views and visual resources in the project area that may result from the reasonably foreseeable residential, commercial, industrial, and highway development in the entire region, as listed above. These land use activities can degrade the visual character of landscape units and can affect the visual unity and intactness of key views. As described previously in this assessment, the proposed Build Alternatives are not anticipated to have a substantial visual and aesthetic impact on the key views or viewers near the site. While there have been improvements to portions of SR 1 to the north and south of the project area, given the existing terrain and views of the alignment, as well as the localized nature of the proposed improvements, the project is not anticipated to contribute to substantial cumulative visual and aesthetic changes when combined with other reasonably foreseeable projects in the vicinity, as listed above.

#### *2.23.2.3 Air Quality*

**Resource Study Area**

For air quality, the RSA was defined as the land uses adjacent to the freeway segments within the project limits. These land uses are those where project-related changes, coupled with increased traffic from ongoing growth, could result in cumulatively substantial increases in emissions of air pollutants.

**Health and Historical Context**

Cumulative development has resulted in a substantial degradation in ambient air quality in the greater San Francisco Bay Area. However, due to emissions control technology, overall air quality has been improving in recent years. The project lies within the Bay Area Air Quality Management District (BAAQMD). The project is located on the base of the Santa Cruz Mountains in the Peninsula sub air basin. Air quality in the project area is typically good, and the buildup of air pollution is not usually a concern. The project area is sparsely developed with low density and a few industrial sources of pollution. Pacifica is exposed to sufficient ocean winds that disperse cool air into the area preventing inversion layers from forming.

**Cumulative Impacts**

Although most present and reasonably foreseeable future development will likely increase emissions, improvements in technology are largely expected to offset such increases. The project will not contribute to the region's emissions because it will not generate additional vehicle trips or lead to unplanned growth. Rather, the project is expected to reduce area-wide emissions by decreasing congestion and vehicle delay, as described in Section *2.14 Air Quality*.

Emissions from the project are addressed and accounted for in the regional analysis that is performed for a proposed project's inclusion in the RTP and TIP for San Mateo County. The project is listed in the latest approved RTP and TIP that were found to conform to the SIP.

### *2.23.2.4 Noise and Vibration*

**Resource Study Area**

For noise, the RSA was defined as the land uses adjacent to the freeway segment and the intersections within the project limits. These land uses are those where project-related changes, coupled with increased traffic from ongoing growth, could result in cumulatively substantial increases in noise.

**Health and Historical Context**

The existing noise environment throughout the project corridor varies by location; depending on specific site characteristics such as proximity to SR 1 and other local noise sources (e.g., frontage roads); the relative elevations of the highway, terrain, and receivers; and the presence of intervening structures. Existing loudest-hour noise levels range from approximately 60 dBA[46] Leq(h)[47] at well-shielded land uses to approximately 77 dBA Leq(h) at unshielded outdoor activity areas nearest SR 1.

**Cumulative Impacts**

Development has resulted in a substantial increase in ambient noise levels in the project area. Ground traffic is the single largest source of noise, especially in the vicinity of the freeways. Noise typically associated with residential and urban environments is present, which also contributes to the cumulative ambient noise levels. The project would incrementally contribute to overall noise levels, as described in Section *2.15 Noise*. The analysis in Section 2.15 indicates, however, that future increases in noise - taking into account both the project and reasonably foreseeable future projects - will not be substantial.

### *2.23.2.5 Biological Environment and Resources*

**Resource Study Area**

For the biological environment, the RSA was defined as the BSA and the areas extending up the hillsides to the east and northwest toward Mori Point. The BSA consists of the footprint of the project as well as all areas that may be affected directly or indirectly by the construction activity or action. The BSA includes approximately 80 acres.

**Health and Historical Context**

Shining willow riparian forest and perennial aquatic habitat occur within and adjacent to Calera Creek. The Calera Creek corridor within the BSA supports a mosaic of riparian and freshwater emergent wetland vegetation. Isolated seasonal wetland/seasonal aquatic habitat types also occur within the BSA that supports a mixture of non-native and native plant species of lower quality. No special-status plant species are present within the impact area of the two project Build Alternatives.

[46] An "A-weighted decibel" (dBA) approximates the frequency response of the average young ear when listening to most ordinary everyday sounds.
[47] Leq(h) is a measurement of the average energy level intensity of noise during the peak hour noise period. "Leq" stands for the Noise Equivalent Level.

No threatened or endangered plant species occur within the project's BSA for either Build Alternative.

The western pond turtle is a special-status reptile that is expected to occur and may breed within the BSA. Four bird species, the loggerhead shrike, yellow warbler, San Francisco Common Yellowthroat, and white-tailed kite, may nest in or adjacent to the BSA. Two species listed under FESA may be present within the BSA; the California red-legged frog and the San Francisco garter snake.

SR 1 currently impedes the dispersal of terrestrial animal species between coastal habitats and inland areas along the project alignment. Within the BSA, the existing Calera Creek culvert passes under both the highway and a large fill embankment northwest of Reina Del Mar Avenue. As a dispersal route for animals, the current culvert provides little connectivity for terrestrial animal species due to its length, slope, and shallow water (exposing aquatic animals to predation) and lack of cover.

## Cumulative Impacts

As described in Sections *2.16-2.20*, the proposed Build Alternatives would not directly affect natural communities of concern, such as riparian or aquatic habitats. The project will not create new substantial barriers to the movement of wildlife and/or fish passage. The project will not affect wetland habitat or other waters in the vicinity of the proposed roadway improvements.

With the mitigation measures outlined in Sections *2.16, Natural Communities, 2.17, Wetlands and Other Waters, 2.18, Plant Species, 2.19, Animal Species, 2.20, Threatened and Endangered Species, and 2.21, Invasive Species,* of this document, the project will not affect any special-status plant species. In addition, there are no other recently-constructed, approved, and/or pending reasonably foreseeable projects that would contribute to the cumulative loss of biological resources in the project area.

# CHAPTER 3 CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) EVALUATION

## 3.1 INTRODUCTION

The project is subject to federal and state environmental review requirements because the project sponsor(s) proposes to use federal funds from the Federal Highway Administration (FHWA) and/or the project requires a FHWA approval action. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). SMCTA is a project sponsor, and the Department is the lead agency under CEQA and NEPA. FHWA's responsibility for environmental review, consultation, and any other action required in accordance with NEPA and other applicable Federal laws for this project is being, or has been, carried out by the Department under its assumption of responsibility pursuant to 23 U.S.C. 327.

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

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

## 3.2 DISCUSSION OF SIGNIFICANCE OF IMPACTS

Below are impact conclusions under CEQA for the impact categories in this document. The reader is referred to the *Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures* for the details regarding these impacts.

### 3.2.1 Less-Than-Significant Effects of the Proposed Project

The impact discussions for Cultural Resources, Hazardous Waste/Materials, and Construction Impacts have been moved to the less than significant section in order to provide clarification and consistency with the findings in the CEQA Checklist (refer to Appendix A).

#### *3.2.1.1 Land Use*

Land acquisition would be by the County of San Mateo, a certified agency. The owners of any properties acquired for project right-of-way will be compensated for the loss and/or use in accordance with Federal and State right-of-way requirements. The proposed project would be consistent with state, regional, and local plans and programs. Therefore, the proposed improvements would not result in significant land use impacts (refer to Section *2.1, Land Use*).

#### *3.2.1.2 Growth*

The project is located within an urbanized area of the city of Pacifica and its construction would not open additional areas to development. The project is proposed to remove an existing bottleneck for traffic congestion and improve the level of service operation in the immediate project area. Because the project would reduce delay through the project segment, this time savings would improve the accessibility of this area. While the proposed widening and intersection improvements would improve traffic operations and accessibility to land uses in the site area, the overall capacity of SR 1 would not substantially change because the SR 1 segments north and south of the project would remain unchanged. The project would maintain existing property access to SR 1, but would not create any new connections to other roadways or areas, and the project would not open any new areas to development. Similarly, the overall capacity of Reina Del Mar Avenue and Fassler Avenue/Rockaway Beach Avenue will not substantially change because the project alternatives would not add any new through lanes to those roadways.

There are no pending or recently-approved projects whose construction is conditioned upon the implementation of the project. Given the project's location and physical constraints, as well as resource agency jurisdictions, the project would have little influence on future growth in the region. While there could be some perceived pressure to develop the former quarry property with a widened highway in place, development of the former quarry property is not conditioned on or tied to additional highway capacity. Any development proposal on that property would be evaluated through its own review process by the City and the California Coastal Commission.

The project would not result in any direct growth-inducing impacts, because no development is tied to the construction of the widening and intersection improvements. Indirect growth-inducing impacts would be minimal as the project does not include the construction of extended segments of new through lanes on the freeways or local streets. For additional discussion of growth, please refer to Section *2.2 Growth*.

#### *3.2.1.3 Relocations*

The Build Alternatives would necessitate the relocation of the residents living in the one single-family dwelling located at 425 Old County Road. The one residential property would be purchased at fair market value. Residents would receive relocation assistance in accordance with the provision of the Caltrans Relocation Assistance Program. Therefore the project would not result in significant displacement or relocation impacts (refer to Section *2.3 Relocations*).

#### *3.2.1.4 Environmental Justice*

The percentages of minority and low-income populations that are present in the project area are generally less than that of the community as a whole. No minority or low-income populations have

been identified that would be impacted by the proposed project. Therefore the project would not result in environmental justice impacts (refer to Section *2.4 Environmental Justice*).

#### *3.2.1.5 Utilities/Emergency Services*

Where necessary to construct the Build Alternatives, some existing utility lines would be relocated, as is commonplace for projects of this nature. Such utility work would not result in disruption of utility services in the project area because existing lines would not be disconnected prior to installation of the relocated lines.

The Build Alternatives would not affect the long-term operation of emergency services, nor would they require any right-of-way acquisition from the police station property or other emergency service facilities. While there could be some temporary incremental delay in response times through the site during construction activities, emergency services would indirectly and incrementally benefit from the Build Alternatives due to reduced congestion through the alignment area.

The project would not result in significant impacts to utilities or emergency services (refer to Section *2.5 Utilities/Emergency Services*).

#### *3.2.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities*

Construction activities would occur in stages in order to minimize disturbance and to maintain circulation and access through the project area. Except for temporary off-peak lane closures, the same number of traffic lanes will be maintained on SR 1 and local streets during the construction period. No roadway or driveway access to businesses or residents is expected to be severed during the construction of the project.

With the project, average vehicle delays would decrease by approximately 65 percent in both peak hours. Travel times through the project corridor would improve by between eight and 11 minutes. Pedestrian sidewalks would be improved throughout the project reach as part of the project. The existing two-way Class I bicycle/pedestrian path adjacent to the westerly edge of the highway north of Reina Del Mar Avenue would be upgraded as part of the project. Therefore, the project would result in beneficial impacts to traffic and circulation, as well as to pedestrian and bicycle facilities (refer to Section *2.6 Traffic and Transportation/Pedestrian & Bicycle Facilities*).

#### *3.2.1.7 Visual/Aesthetics*

While the project would have some visual impacts, they would not result in a significant impact under CEQA because: 1) they would not constitute a substantial adverse effect on a scenic vista; 2) they would not substantially damage scenic resources, including, but not limited to trees, rock outcroppings and historic buildings within a state scenic highway; 3) the loss of the vegetation would not substantially degrade the existing visual character or quality of the area; and 4) the project would not introduce a new source of substantial light or glare into the area. Refer to Section *2.7 Visual/Aesthetics* of this document.

#### *3.2.1.8 Cultural Resources*

There is a low potential for exposing additional prehistoric and historic archaeological resources associated with the cultural resource site (CA-SMa-162), that has been identified within the project

area. The project could potentially impact another known cultural resource site within the project area (CA-SMa-268). Two separate Environmentally Sensitive Areas (ESA) are included as part of the project and will be maintained for each resource to avoid impacts. ESA 1 is for CA-SMa-162 and ESA 2 is for CASMa-268. Inclusion of the avoidance and minimization measures CULT-1.1 and CULT-1.2 outlined in Section *2.8 Cultural Resources* will avoid impacts on cultural resources. For areas outside the two ESAs, the avoidance and minimization measures CULT-2.1 and CULT-2.2 outlined in Section *2.8 Cultural Resources,* will avoid impacts to unknown resources in the site area.

Caltrans has determined a Finding of No Adverse Effect with Standard Conditions – Environmentally Sensitive Areas (ESAs), according to Section 106 PA Stipulation X.B(2) and 36 CFR 800.5(b). Therefore, the project would not result in significant impacts to cultural resources (refer to Section *2.8 Cultural Resources*).

#### *3.2.1.9 Hydrology and Floodplain*

Construction of the project will not substantially increase impervious surfaces and, therefore, increases in pollutant-containing runoff will not be significant. Ground water recharge impacts will not be significant. Further, in compliance with Caltrans' NPDES permit, the project includes feasible BMPs to treat stormwater runoff. Therefore, the project would not result in significant impacts to the hydrology or floodplains within the area (refer to Section *2.9 Hydrology and Floodplain).*

#### *3.2.1.10 Water Quality and Storm Water Runoff*

Construction-related activities may temporarily affect storm water quality due to increased erosion and the potential for spills and leaks of lubricants and other fluids associated with vehicles and equipment during construction. Certain pollutants are associated with storm water runoff from highways and increases in roadway and other impervious surfaces also result in increases in storm water runoff, which could increase pollutants. The Build Alternatives would result in an increase in the amount of roadway paving and other impervious surfaces. However, this increase would be minimal, especially given the fact that most of the project site already consists of roadways (i.e., the existing freeway). Therefore, the project would not result in significant impacts to water quality (refer to Section *2.10 Water Quality and Storm Water Runoff*).

#### *3.2.1.11 Geology/Soils/Seismic/Topography*

The proposed project will involve typical highway excavation and grading practices necessary to construct the additional lanes and intersection modifications. There are no geologic features on the site that would pose special or unique hazards to users of the proposed improvements. The project will implement standard engineering practices to ensure that geotechnical and soil hazards do not result from its construction, and impacts would not be significant. Refer to Section *2.11 Geology/Soils/Seismic/Topography*, of this document.

#### *3.2.1.12 Paleontology*

The areas where planned ground-disturbing/excavation activities into native soils will occur within the project footprint could potentially impact paleontological resources. Inclusion of the avoidance and minimization measures for paleontological resources recommended and in accordance with Caltrans' Standard Environmental Reference Guidelines (Caltrans, 2007) for those areas where

ground-disturbing activities may take place will reduce impacts to paleontological resources. Refer to Section *2.12 Paleontology*, of this document.

#### *3.2.1.13 Hazardous Waste/Materials*

Fuel leak incidents have been reported on and near the project SR 1 alignment that have resulted in residual petroleum hydrocarbon concentrations in soil and ground water. Fuel leak incidents reported at 4460 Cabrillo Highway (former Union Oil Station) within the project alignment, and at 2095 Coast Highway (currently active Alliance Station) located near the project, have impacted soil and/or ground water quality in areas where earthwork activities associated with the planned highway improvements are proposed. Materials likely used in soils at the Vallemar Station property could still be present in soils at this location.

In addition, soil with elevated concentrations of lead is likely to be present. An embankment consisting of unknown fill materials is present within the project limits, and naturally-occurring asbestos may be present in rock within the project alignment. Lastly, structures located within the project alignment presumably will be demolished that may include asbestos-containing materials. Construction of the proposed project, therefore, could expose construction workers to those substances in concentrations that exceed regulatory thresholds. Incorporation of the avoidance and minimization measures described in Section *2.13 Hazardous Waste/Materials*, however, which are included in the project, will reduce hazardous materials impacts.

#### *3.2.1.14 Air Quality*

The proposed project is in conformance with the Clean Air Act and the State Implementation Plan. Construction of the proposed project would not cause or contribute to violations of carbon monoxide (CO) standards. Construction of the proposed project would not substantially increase MSAT emissions within the project limits. Regional MSAT emissions would not change due to the project. Therefore air quality impacts would be considered less than significant. Refer to Section *2.14 Air Quality*, of this document.

#### *3.2.1.15 Noise*

The Caltrans *Traffic Noise Analysis Protocol (TNAP)* states that a traffic noise impact may be considered significant under CEQA if the project is predicted to result in a substantial increase in traffic noise. A substantial noise increase is defined as an increase of 12 dBA Leq(h) above existing conditions. The results of the traffic noise modeling indicate that the project will typically result in increases of zero (0) to two (2) dBA Leq(h) throughout the study area. The highest increases would be two (2) dBA Leq(h), which would not be a perceptible increase. Therefore, traffic noise impacts of the proposed project are considered less than significant under CEQA. Refer to Section *2.15, Noise*, of this document.

#### *3.2.1.16 Biological Environment and Resources*

The proposed project would not directly impact natural communities of concern, such as riparian or aquatic habitats. The project will not create new substantial barriers to the movement of wildlife and/or fish passage. The project will not impact wetland habitat or other waters in the vicinity of the proposed roadway improvements. No special-status plant species are present within the project area.

None of the species on the California list of noxious weeds is currently used by the Department for erosion control or landscaping in San Mateo County. Therefore, the project is very unlikely to propagate invasive species in the site area. The proposed project would not significantly impact individual American peregrine falcons or bank swallows or foraging habitat used by these state threatened or endangered species.

The project would not result in direct permanent or temporary effects to aquatic, riparian, or wetland habitats used by California red-legged frogs. The hydrology of aquatic habitats outside the project area where California red-legged frogs could be present also would not be altered by the project.

Habitat for the western pond turtle within the project area is marginal at best, although it is possible that turtles may occur in the project area rarely as an occasional dispersant. There will essentially be no loss of biologically functional habitat for western pond turtles. The same mitigation measures included in the project for California red-legged frogs and San Francisco garter snakes in Section *2.20 Threatened and Endangered Species* would reduce the potential for individual turtles to be affected by construction activities under either Build Alternative.

Indirect impacts on water quality in shining willow riparian forest, perennial aquatic habitat, wetlands and other waters on-site or off-site, are possible during and after construction of the project. Construction activities during the breeding season of loggerhead shrike, yellow warbler, San Francisco common yellowthroat, and white-tailed kite could impact breeding success of these special-status species.

With the avoidance and minimization measures outlined in Sections *2.16 Natural Communities, 2.16 Wetlands and Other Waters, 2.19 Animal Species, and 2.21 Invasive Species*, of this document, the project will have a less than significant impact on these resources.

#### *3.2.1.17 Construction Impacts*

Narrowed lanes on SR 1 through the construction zone will be likely during several phases of construction, and at times the roadway will be temporarily shifted to allow work on other portions. Prior to construction, a Transportation Management Plan (TMP) will be prepared to avoid/minimize construction-related impacts to traffic. Therefore, the project would not result in significant construction-related traffic impacts (refer to *Section 2.22.1.1*).

Construction activities have the potential to impact water quality in nearby creeks and waterways in the form of sedimentation, erosion, and fuels/lubricants from equipment. In order to avoid/minimize the potential to degrade water quality, the project shall implement the measures described in Section 2.22.2.2. Therefore, the project would not result in significant construction-related water quality impacts.

Construction-related emissions are generally short-term in duration but may still cause adverse air quality impacts unless proper emission control measures are implemented. Standard Caltrans construction avoidance and minimization management practices are adequate to assure that associated air quality impacts will be minimal. These include requiring emission controls on construction equipment and spraying water on exposed surfaces to minimize dust. Therefore, the project would not result in significant construction-related air quality impacts (refer to *Section 2.22.3.2*).

Noise from construction activities is likely to constitute a temporary annoyance at residences located along SR 1 during specific activities. Construction activities may also generate noticeable ground vibration at nearby residences, with pile driving being the construction source that could produce the greatest ground vibrations, if used in the project. To reduce the potential for noise impacts resulting from project construction, standard avoidance and minimization measures will be implemented during project construction. Therefore, the project would not result in significant construction-related noise impacts (refer to *Section 2.22.4.2*).

#### *3.2.1.18 Mandatory Findings of Significance*

*2) 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)?*

Traffic: The overall capacity of SR 1 in the region would not substantially change under the proposed project because the SR 1 segments north and south of the project would remain unchanged and the project would not result in a traffic impact. Therefore, the Build Alternatives would not have a cumulatively considerable contribution to impacts related to traffic, and impacts would be considered less than significant.

Aesthetics: While there have been improvements to portions of SR 1 to the north and south of the project area, given the existing terrain and views of the alignment, as well as the localized nature of the proposed improvements, the project is not anticipated to contribute to substantial cumulative visual and aesthetic changes when combined with other reasonably foreseeable projects in the vicinity. Therefore, the proposed project would not have a cumulatively considerable contribution to visual and aesthetic impacts and the resulting cumulative impact would be considered less than significant.

Air Quality: The project is expected to reduce area-wide emissions by decreasing congestion and vehicle delay, as described in Section *2.14 Air Quality*. Therefore, the proposed project would not have a cumulatively considerable contribution to air quality impacts, and the resulting cumulative impact would be considered less than significant.

Noise: The project would incrementally contribute to overall noise levels, as described in Section *2.15 Noise*. The analysis in Section 2.15 indicates, however, that future increases in noise taking into account both the project and planned growth, including the reasonably foreseeable future projects - will not be substantial. Therefore, the proposed project would not have a cumulatively considerable contribution to impacts related to noise and cumulative noise impact would be considered less than significant.

Biological Resources: With the mitigation measures outlined in Sections 2.16 to 2.21of this document, the project will not affect any special-status plant species. In addition, there are no other recently-constructed, approved, and/or pending reasonably foreseeable projects that would contribute to the cumulative loss of biological resources in the project area. For these reasons, while the proposed Build Alternatives would have impacts of their own, the project would not have a cumulatively considerable contribution to cumulative biological resources impacts and cumulative biological resource impacts would be considered less than significant.

The cumulative impacts of the project are further described in Section *2.23 Cumulative Impacts*, of this report.

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

The project would not result in significant impacts upon human beings. Refer to Chapter 2 of this report. The impact conclusion under CEQA (refer to Appendix A) for effects on human beings was found to be "Less Than Significant". The project proposes avoidance and minimization measures for temporary construction-related traffic, air quality, noise, and water quality impacts. The project's construction-related impacts are discussed in Section 2.22 of this report.

*4) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?*

The project is not anticipated to achieve short-term environmental goals to the disadvantage of long-term environmental goals. Refer to Sections 2.1-2.8 of this report.

## 3.2.2 Significant Environmental Effects of the Proposed Project

### *3.2.2.1 Biological Resources*

Implementation of the Narrow Median Build Alternative would result in permanent impacts to 6.81 acres of upland habitats potentially occupied by California red-legged frogs. The Landscaped Median Build Alternative would result in an additional 0.27 acres of impact to dispersal habitat. An additional 3.75 acres of potentially occupied upland habitats would be temporarily impacted during construction. Construction activities may significantly impact individual California red-legged frogs dispersing or foraging within the construction zone.

Implementation of the Narrow Median Build Alternative would also result in permanent impact to 6.81 acres of upland habitats potentially occupied by dispersing San Francisco garter snakes. (This is the same habitat as for California red-legged frogs.) The Landscaped Median Build Alternative would result in an additional 0.27 acres of impact to dispersal habitat. An additional 3.75 acres of potentially occupied upland habitats would be temporarily impacted during construction. Construction activities may significantly impact individual San Francisco garter snake dispersing or following prey within the construction zone.

With incorporation of the mitigation measures outlined in Section *2.20 Threatened and Endangered Species*, of this document, the proposed project would not significantly impact movement or dispersal of California red-legged frogs or San Francisco garter snakes.

### *3.2.2.2 Mandatory Findings of Significance*

*1) 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, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

The project's potential impacts upon threatened and endangered species are discussed in Section 2.20 of this report. Construction of the project would disturb developed and roadside/ruderal grassland and non-native woodland habitat that could be used for foraging and dispersal by California Red-legged frogs and San Francisco Garter Snake. The project would result in permanent and temporary impacts of potentially occupied habitat. With incorporation of the mitigation measures outlined in Section 2.20, impacts to special status species would be reduced to a less than significant level.

### 3.2.3 Unavoidable Significant Environmental Effects

The proposed project, with the avoidance, minimization, and mitigation measures described above and in Section *2.0, Affected Environment, Environmental Consequences, & Avoidance, Minimization and/or Mitigation Measures*, of this document, would not result in any unavoidable, significant impacts under CEQA.

### 3.2.4 Environmentally Superior Alternative

The CEQA Guidelines state that an EIR shall identify an environmentally superior alternative. If the environmentally superior alternative is the "No Project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (Section 15126.6(e)(2)).

Based on the previous discussion, the environmentally superior alternative is the No Build alternative, which would avoid the physical impacts associated with right-of-way acquisition, biological resources, cultural resources, and aesthetics. The No Build alternative would not result in the incremental benefits of the project associated with traffic, air quality, and greenhouse gases. The No Build alternative would not fulfill the project's purpose of improving traffic operations and peak-period travel times by decreasing traffic congestion.

Apart from the No Build alternative, the two other Build Alternatives considered would improve traffic, air quality, and greenhouse gases, and would fulfill the purpose of the proposed project. Both the Narrow Median Build Alternative and the Landscaped Median Build Alternative would both result in impacts to right-of-way, biological resources, cultural resources, and aesthetics. Since the Landscaped Median Alternative would provide an aesthetic benefit to the project area by providing glare screening and opening up coastal views for northbound traffic, this alternative would be the environmentally superior alternative.

## 3.3 CLIMATE CHANGE

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

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization's in 1988, has led to increased efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs related to human activity that include carbon dioxide ($CO_2$), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas (GHG) Mitigation" is a term for reducing GHG emissions in order to reduce or "mitigate" the impacts of climate change. "Adaptation," refers to the effort of planning for and adapting to impacts due to climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).

Transportation sources (passenger cars, light duty trucks, other trucks, buses and motorcycles) in the state of California make up the largest source (second to electricity generation) of greenhouse gas emitting sources. Conversely, the main source of GHG emissions in the United States is electricity generation followed by transportation. The dominant GHG emitted is $CO_2$, mostly from fossil fuel combustion.

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improve system and operation efficiencies; 2) reduce growth of vehicle miles traveled (VMT); 3) transition to lower GHG fuels; and 4) improve vehicle technologies. To be most effective all four should be pursued collectively. The following regulatory setting section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

### 3.3.1 Regulatory Setting

#### *3.3.1.1 State*

With the passage of several pieces of legislation including State Senate and Assembly Bills and Executive Orders, California launched an innovative and pro-active approach to dealing with greenhouse gas emissions and climate change at the state level.

Assembly Bill 1493 (AB 1493), Pavley: Vehicular Emissions: Greenhouse Gases (AB 1493), 2002: requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June 2009, the United States Environmental Protection Agency (U.S. EPA) Administrator granted a Clean Air Act waiver of preemption to California. This waiver allowed California to implement its own GHG emission standards for motor vehicles beginning with model year 2009. California agencies will be

working with Federal agencies to conduct joint rulemaking to reduce GHG emissions for passenger cars model years 2017-2025.

Executive Order S-3-05: (signed on June 1, 2005, by Governor Arnold Schwarzenegger) the goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020, and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

AB32 (AB 32), the Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that ARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the State's Climate Action Team.

Executive Order S-01-07: Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this Executive Order, the carbon intensity of California's transportation fuels is to be reduced by at least ten percent by 2020.

Senate Bill 97 (Chapter 185, 2007): required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. The Amendments became effective on March 18, 2010.

#### *3.3.1.2 Federal*

Although climate change and GHG reduction is a concern at the federal level; currently there are , no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Climate change and its associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and Executive Order 13514- *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also direct federal agencies to participate in the interagency Climate Change Adaptation Task Force, which is engaged in developing a U.S. strategy for adaptation to climate change.

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act and that the U.S. EPA has the authority to regulate GHG. The Court held that the U.S. EPA Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding**: The Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO2), methane ($CH_4$), nitrous oxide ($N_2O$), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur

hexafluoride (SF6)--in the atmosphere threaten the public health and welfare of current and future generations.

- **Cause or Contribute Finding**: The Administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. EPA's *Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles*, which was published on September 15, 2009.[48] On May 7, 2010 the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards* and *Corporate Average Fuel Economy Standards* were published in the Federal Register.

U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations. These steps were outlined by President Obama in a memorandum on May 21, 2010.[49]

The final combined USEPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon (MPG) if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards will cut GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On January 24, 2011, the U.S. EPA along with the U.S. Department of Transportation and the State of California announced a single timeframe for proposing fuel economy and greenhouse gas standards for model years 2017-2025 cars and light-trucks. Proposing the new standards in the same timeframe (September 1, 2011) signals continued collaboration that could lead to an extension of the current National Clean Car Program.

### 3.3.2 Affected Environment

#### *3.3.2.1 Project Analysis*

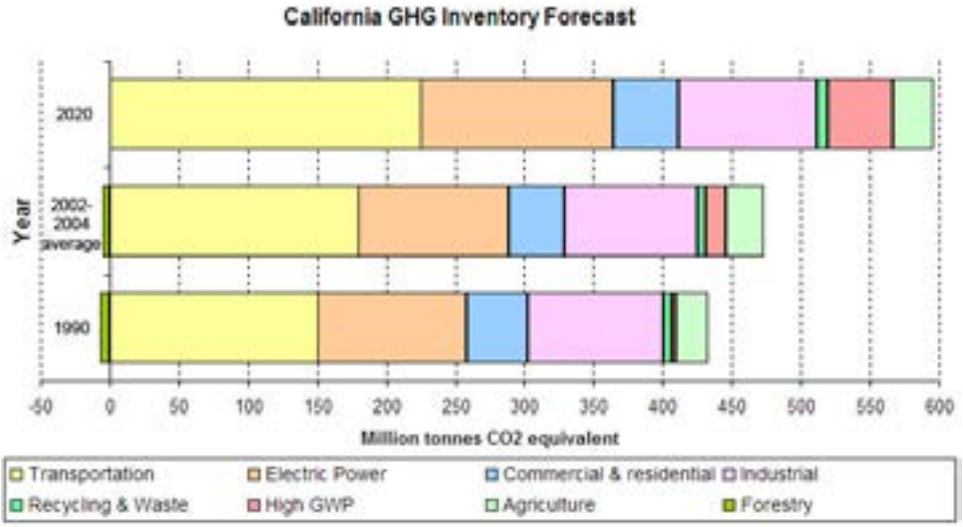
An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG.[50] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines sections

[48] http://www.epa.gov/climatechange/endangerment.html.
[49] http://epa.gov/otaq/climate/regulations.htm.
[50] This approach is supported by the AEP: Recommendations by the Association of Environmental Professionals in *How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the SCAQMD (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

15064(h)(1) and 15130. To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan contains the main strategies California will use to reduce GHG. As part of its supporting documentation for the Draft Scoping Plan, CARB released the GHG inventory for California (Forecast last updated: 28 October 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

**FIGURE 3.1 CALIFORNIA GREENHOUSE GAS INVENTORY**

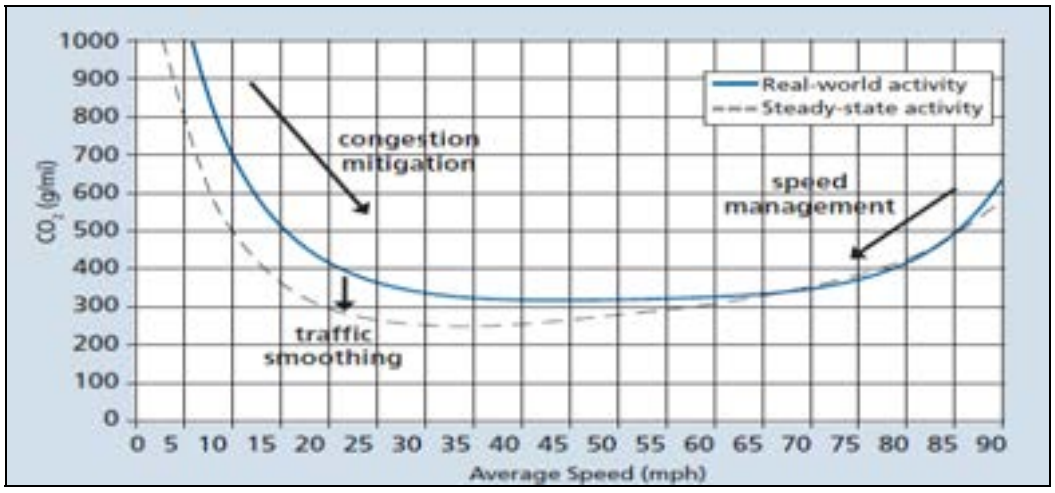



Taken from : http://www.arb.ca.gov/cc/inventory/data/forecast.htm

The Department and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation (see Climate Action Program at Caltrans (December 2006), the Department has created and is implementing the Climate Action Program at the Department that was published in December 2006. This document can be found at: http://www.dot.ca.gov/docs/ClimateReport.pdf

One of the main strategies in the Department's Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0-25 miles per hour (see Figure 3.2 below). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors, GHG emissions, particularly $CO_2$, may be reduced.

**FIGURE 3.2 POSSIBLE EFFECTS OF TRAFFIC OPERATION STRATEGIES IN REDUCING ON-ROAD CO2 EMISSIONS[51]**




As described in Section *1.2 Purpose and Need for the Proposed Project*, the intent of the project is to improve traffic operations by reducing congestion on this segment of SR 1, which acts as a bottleneck. During the early planning phase of the project, consideration was made of numerous alternatives and solutions to achieve the project purpose. Please refer to Section *1.2 Purpose and Need for the Proposed Project*, and Section *1.4 Alternatives*. While the project would provide additional through-lane capacity along this segment of SR 1, the project would not substantially alter travel or distribution patterns.

Modeling of project GHG emissions using CT-EMFAC was completed as part of this analysis. The proposed project would not substantially alter traffic volumes and either of the Build Alternatives would increase travel speeds and reduce travel time through the project corridor.[52] The proposed project is expected to result in a decrease in GHG emissions when comparing the existing conditions to the future Build conditions. With either of the project Build Alternatives, the average travel speed through the project limits increased from 8-10 mph to 21-24 mph. This increase in speed would lower the modeled GHG emission rate during the peak hours and result in an approximately 12 percent decrease in GHG emissions (see Table 3.1 below).

**TABLE 3.1**
**CT-EMFAC MODELING OF GREENHOUSE GAS EMISSIONS (CO2)**

| Scenario | Tons of CO2 per year |
|---|---|
| Existing Conditions (2011) | 126.26 |
| Future No-Build (2035) | 124.17 |
| Future with either Project Build Alternative (2035) | 109.48 |

*Source: Illingworth & Rodkin, June 2011.*

[51] **Traffic Congestion and Greenhouse Gases:** Matthew Barth and Kanok Boriboonsomsin(TR News 268 May-June 2010)<http://onlinepubs.trb.org/onlinepubs/trnews/trnews268.pdf>

[52] Fehr & Peers. Final Traffic Operations Report, SR 1/Calera Parkway, July 2008.

#### *3.3.2.2 Construction Emissions*

GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be reduced to some degree by longer intervals between maintenance and rehabilitation events.

The project includes measures that will reduce GHG emissions during construction, including the following:

- A transportation management plan (TMP) will be prepared and implemented. Among other benefits, the TMP will reduce traffic congestion during construction.

- Unnecessary idling of internal combustion engines will be strictly prohibited.

#### *3.3.2.3 CEQA Conclusion*

As discussed in the project analysis above, the Department does anticipate a decrease in $CO_2$ emissions in the project area as a result of the project. However, it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding the significance of the project's direct impact and its contribution on the cumulative scale to climate change. Caltrans is firmly committed however to taking measures to help reduce energy consumption and greenhouse gas emissions both at the program level and at the project level. These measures are outlined in Section 3.3.2.4 below.

#### *3.3.2.4 Greenhouse Gas Reduction Strategies and AB 32 Compliance*

The Department continues to be actively involved on the Governor's Climate Action Team as CARB works to implement the Governor's Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies the Department is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain $CO_2$ reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as depicted in Figure 3.3 Mobility Pyramid.

**FIGURE 3.3 MOBILITY PYRAMID**


The Department is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. The Department is working closely with local jurisdictions on planning activities; however, the Department does not have local land use planning authority. The Department is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; the Department is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by U.S. EPA and ARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the UC Davis.

Table 3.2 summarizes the Department and statewide efforts that the Department is implementing in order to reduce GHG emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

## TABLE 3.2
## DEPARTMENT AND STATEWIDE EFFORTS TO REDUCE GHG EMISSIONS

| Strategy | Program | Partnership | | Method/Process | Estimated $CO_2$ Savings (MMT) | |
|---|---|---|---|---|---|---|
| | | Lead | Agency | | 2010 | 2020 |
| Smart Land Use | Intergovernmental Review (IGR) | Caltrans | Local Governments | Review and seek to mitigate development proposals | Not Estimated | Not Estimated |
| | Planning Grants | Caltrans | Local and regional agencies & other stakeholders | Competitive selection process | Not Estimated | Not Estimated |
| | Regional Plans and Blueprint Planning | Regional Agencies | Caltrans | Regional plans and application process | 0.975 | 7.8 |
| Operational Improvements & Intelligent Trans. System (ITS) Deployment | Strategic Growth Plan | Caltrans | Regions | State ITS; Congestion Management Plan | .007 | 2.17 |
| Mainstream Energy & GHG into Plans and Projects | Office of Policy Analysis & Research; Division of Environmental Analysis | Interdepartmental effort | | Policy establishment, guidelines, technical assistance | Not Estimated | Not Estimated |
| Educational & Information Program | Office of Policy Analysis & Research | Interdepartmental, CalEPA, CARB, CEC | | Analytical report, data collection, publication, workshops, outreach | Not Estimated | Not Estimated |
| Fleet Greening & Fuel Diversification | Division of Equipment | Department of General Services | | Fleet Replacement<br>B20<br>B100 | 0.0045 | 0.0065<br>0.45<br>.0225 |
| Non-vehicular Conservation Measures | Energy Conservation Program | Green Action Team | | Energy Conservation Opportunities | 0.117 | .34 |

| **Strategy** | **Program** | **Partnership** | | **Method/Process** | Estimated $CO_2$ Savings (MMT) | |
|---|---|---|---|---|---|---|
| | | **Lead** | **Agency** | | 2010 | 2020 |
| Portland Cement | Office of Rigid Pavement | Cement and Construction Industries | | 2.5 % limestone cement mix<br>25% fly ash cement mix<br>> 50% fly ash/slag mix | 1.2<br>.36 | 3.6 |
| Goods Movement | Office of Goods Movement | Cal EPA, CARB, BT&H, MPOs | | Goods Movement Action Plan | Not Estimated | Not Estimated |
| Total | | | | | 2.72 | 18.67 |

To the extent that it is applicable or feasible for the project and through coordination with the project development team, the following measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the project:

1. The Department and the California Highway Patrol are working with regional agencies to implement intelligent transportation systems (ITS) to help manage the efficiency of the existing highway system. ITS is commonly referred to as electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.
2. In addition, the San Mateo County Transportation Authority provides ridesharing services and park-and-ride facilities to help manage the growth in demand for highway capacity.
3. Landscaping reduces surface warming, and through photosynthesis, decreases $CO_2$. The project proposes planting in the intersection slopes, drainage channels, and seeding in areas adjacent to frontage roads and planting a variety of different-sized plant material and scattered skyline trees where appropriate but not to obstruct the view of the mountains. The Landscaped Median Build Alternative would also provide landscaping within the roadway median between Fassler Avenue/Rockaway Beach Avenue and Reina Del Mar Avenue. Caltrans has committed to planting a minimum of 40 trees. These trees will help offset any potential $CO_2$ emissions increase. Based on a formula from the Canadian Tree Foundation, it is anticipated that the planted trees will offset between 7-10 tons of $C0_2$ per year.
4. The project would incorporate the use of energy efficient lighting, such as LED traffic signals. LED bulbs — or balls, in the stoplight vernacular — cost $60 to $70 apiece but last five to six years, compared to the one-year average lifespan of the incandescent bulbs previously used. The LED balls themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the projects $CO_2$ emissions.
5. According to Caltrans Standard Specification Provisions, idling time for lane closure during construction is restricted to ten minutes in each direction; in addition, the contractor must comply with the Bay Area Air Quality District's rules, ordinances, and regulations in regards to air quality restrictions.

#### *3.3.2.4 Adaptation Strategies*

"Adaptation strategies" refer to how the Department and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

Climate change adaption must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Governor Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change.

The California Resources Agency (now the Natural Resources Agency, (Resources Agency)), through the interagency Climate Action Team, was directed to coordinate with local, regional, state and federal public and private entities to develop a state Climate Adaptation Strategy. The Climate Adaptation Strategy will summarize the best known science on climate change impacts to California, assess California's vulnerability to the identified impacts and then outline solutions that can be implemented within and across state agencies to promote resiliency.

As part of its development of the Climate Adaptation Strategy, Resources Agency was directed to request the National Academy of Science to prepare a *Sea Level Rise Assessment Report* by December 2010 to advise how California should plan for future sea level rise. The report is to include:

- Relative sea level rise projections for California, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates;
- The range of uncertainty in selected sea level rise projections;
- A synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems;
- A discussion of future research needs regarding sea level rise for California.

Furthermore Executive Order S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance and operational improvements of the system and economy of the state. The Department continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Prior to the release of the final *Sea Level Rise Assessment Report,* all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. However, all projects that have filed a Notice of Preparation, and/or are programmed for construction funding the next five years (through 2013), or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data. (Executive Order S-13-08 allows some exceptions to this planning requirement.) A Notice of Preparation (NOP) of the Draft EIR/EA for this project was filed with the State Clearinghouse on February 12, 2010.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. The Department is an active participant in the efforts being conducted as part of Governor's Schwarzenegger's Executive Order on Sea Level Rise and is mobilizing to be able to respond to the National Academy of Science report on Sea Level Rise Assessment which is due to be released by December 2010. Currently, the Department is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change impacts, the Department has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, the Department will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

However, based on the topography in the area, it is not anticipated that sea level rise would impact this portion of SR 1 within the planned timeframe of the improvements. There are numerous geographic features that act as barriers between SR1 and the ocean within the project area, including cliffs, bluffs and hillsides. The Fassler Avenue/SR 1 intersection is located at 40 feet mean sea level (msl), which is the lowest elevation within the project limits. The Reina Del Mar Avenue/SR 1 intersection is at 80 feet msl and the highest point within the project area is at 100 feet msl. The project proposes to widen an existing highway and will not put a new highway or any structures within harms way from sea level rise.

The Caltrans *Guidance on Incorporating Sea Level Rise* is intended to assist project teams to determine whether and how to incorporate sea level rise measures into the design of Caltrans projects. This guidance includes a three part screening criteria to assess whether a project will be impacted by sea level rise. In accordance with the criteria, the lowest part of the project area that is in an area vulnerable to sea level rise will not be impacted by sea level rise until after 2100.[53] The sea level rise projections included in this document note that the sea level could reach up to approximately 4 ½ feet (55 inches) by the year 2100, which is approximately 35 ½ feet lower than the lowest part of the project area.

[53] Caltrans. 2011. *Guidance on Incorporating Sea Level Rise*. May 16, 2011.

# CHAPTER 4 COMMENTS AND COORDINATION

**The entire text of Chapter 4 can be found in Volume II of the EIR/EA document.**

# CHAPTER 5 LIST OF PREPARERS

The following individuals were principally responsible for preparing this EIR/EA and/or the technical studies upon which the EIR/EA is based:

**Caltrans, District 4 [Oversight]**
Mohammed Suleiman, Project Manager
Amir H. Sanatkar, Design
Amir-Fardin Sadeghi-Nedjad, Design
Yolanda Rivas, District Branch Chief, Office of Environmental Analysis
Thomas Rosevear, Environmental Planner, Office of Environmental Analysis
Jo Ann Cullom, Office of Environmental Analysis
Jeffrey Jensen, District Office Chief, Office of Biological Sciences and Permits
Margaret Gabil, District Branch Chief, Office of Biological Sciences and Permits
Stefan Galvez, Office of Biological Sciences and Permits
Ryan Graybehl, Office of Biological Sciences and Permits
Azadeh Faghihi, Associate Biologist, Office of Biological Resources
Elizabeth Krase-Greene, District Branch Chief, South Counties, Office of Cultural Resource Studies
Maureen Zogg, Office of Cultural Resource Studies
Mary K. Smith, Office of Cultural Resource Studies
Lance Hall, Senior Traffic Engineer, Office of Highway Operations
Min Yin Lee, Office of Highway Operations
Glenn Kinoshita, Senior Environmental Engineer, Office of Environmental Engineering
Lorena Wong, Senior Landscape Architect, Office of Landscape Architecture
Susan Lindsay, Branch Chief, Office of Landscape Architecture
Owen Williams, Office of Landscape Architecture

**Santa Mateo County Transportation Authority [Co-Sponsor]**
Joseph Hurley, Director, Transportation Program

**City of Pacifica [Co-Sponsor]**
Van Ocampo, Director of Public Works

**Mark Thomas & Company [Engineering/Design]**
Brad Leveen, Division Manager
Karsten Adam, Senior Project Engineer
Laurentiu Dusciuc, Design Engineer

**David J. Powers & Associates, Inc. [EIR/EA Preparation]**
John Hesler, Principal
John Schwarz, Principal/Project Manager
Karli Grigsby, Assistant Project Manager
Meryka Blumer, Project Manager
Zach Dill, Graphic Artist

**Basin Research Associates [Cultural Resources/Section 106 Analyses]**
Colin Busby, Principal

**H.T. Harvey & Associates [Biological Resource Analyses]**
Patrick Boursier, Principal
Julie Klingmann, Project Manager

**Cornerstone Earth Group [Hazardous Materials/ISA]**
Ron Helm, Principal

**Illingworth & Rodkin [Air Quality and Noise Analyses]**
Keith Pommerenck, Project Manager

# CHAPTER 6 DISTRIBUTION LIST

This EIR/EA was distributed to the following legislators, public officials, agencies and organizations. Agency names marked with an asterisk (*) received copies through the State Clearinghouse.

**Federal Agencies**

National Marine Fisheries Service
Bay Area Office
777 Sonoma Avenue, Room 325
Santa Rosa, CA 94502

U.S. Army Corp of Engineers
Regulatory Branch
San Francisco District
Attention: CESPN-CO-R
1455 Market Street, 16th Floor
San Francisco, CA 94103-1398

U.S. Department of Agriculture
Natural Resources Conservation Service
430 G Street, #4164
Davis, CA 95616

U.S. Fish and Wildlife Service
U.S. Department of Interior
2800 Cottage Way, Room W-2605
Sacramento, CA 95825

U.S. Environmental Protection
Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

Director, Office of Environmental
Policy and Compliance
Department of the Interior
1849 C Street, NW (MS-2462)
Washington, DC 20240

National Park Service
Golden Gate National Recreation Area
Fort Mason, Building 201
San Francisco, CA 94123

**State Agencies**

Executive Director
Office of Planning and Research
State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

California Department of Conservation*
801 K Street, MS 24-01
Sacramento, CA 95814

California Department of Fish and Game*
Fisheries, Wildlife, and Environmental
Programs
P.O. Box 47
Yountville, CA 94599

Office of Historic Preservation*
1725 23rd Street, Suite 100
Sacramento, CA 95816

California Department of Parks and
Recreation*
Resources Management Division
P.O. Box 942896
Sacramento, CA 94296

California Department of Water
Resources
Reclamation Board
1416 Ninth Street, Room 1601
Sacramento, CA 95814

California Department of Water
Resources*
Environmental Services Office
3500 Industrial Blvd.
Sacramento, CA 95691

California Highway Patrol*
Office of Special Projects
2555 1st Avenue
Sacramento, CA 95818

California Resources Agency*
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

California Department of General Services*
Environmental Services Section
1325 J Street, Suite 1910
Sacramento, CA 95814

California Air Resources Board*
Transportation Projects
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

Department of Resources Recycling and Recovery
801 K Street
Sacramento, CA 95814

California State Water Resources Control Board*
Division of Water Quality
P.O. Box 100
Sacramento, CA 95812

California Department of Toxic Substances Control*
700 Heinz Avenue, Suite 200
Berkeley, CA 94710

California Energy Commission
1516 Ninth Street, MS-29
Sacramento, CA 95814

Native American Heritage Commission*
915 Capitol Mall, Room 364
Sacramento, CA 95814

Public Utilities Commission*
505 Van Ness Avenue
San Francisco, CA 94102

California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825

California Coastal Commission
North Central Coast District Office
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

**Regional Agencies**

Bruce Wolfe, Executive Officer*
Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Ezra Rapport, Executive Director
Association of Bay Area Governments
101 8th Street
Oakland, CA 94604

Steve Heminger, Executive Director
Metropolitan Transportation Commission
101 8th Street
Oakland, CA 94604

Jack Broadbent, Executive Officer
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Laura Thompson, Bay Trail Project Manager
Association of Bay Area Governments
101 Eighth Street
Oakland CA 94607-4756

Kelly Nelson, Executive Director
San Mateo County Resource Conservation District
625 Miramontes Street, Suite 103
Half Moon Bay, CA 94019

Robert Batha, Chief of Permits
San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111

Mel Pincus
San Mateo County Department of Parks Commission
455 County Center, 4th Floor
Redwood City, CA 94063-1646

Julia Bott, Executive Director
San Mateo County Parks and
Recreation Foundation
215 Bay Road
Menlo Park, CA 94025

James C. Porter, Department Director
San Mateo County
Department of Public Works
555 County Center, 5th Floor
Redwood City, CA 94063

Dan Diverde, Operations Manager
Allied Waste Services of San Mateo County
1680 Edgeworth Avenue
Daly City, CA 94105

San Francisco Public Utilities Commission
1155 Market Street, 11th floor
San Francisco CA, 94103

San Mateo County Transportation Authority
Citizens Advisory Committee
1250 San Carlos Avenue
San Carlos, CA, 94070-1306

Hilda LeFebre
Peninsula Corridor Joint Powers Board
(Caltrain)
P.O. Box 3006
San Carlos, CA 94070-1306
San Mateo County Transit District
(SamTrans)
P. O. Box 3006
San Carlos, CA 94070-1306

Peninsula Traffic Congestion Relief
Alliance
1150 Bayhill Drive, Suite 107
San Bruno, CA 94066

Metropolitan Transportation
Commission
101 Eighth Street
Oakland, California 94607

Bay Area Rapid Transit District
P.O. Box 12688
Oakland CA 94604-2688

Bay Area Bicycle Coalition
P.O. Box 1121
Oakland, CA 94948

Leah Shahum, Executive Director
Attn: Jodie Medeiros, Development
Director
San Francisco Bicycle Coalition
833 Market Street, Tenth Floor
San Francisco, CA 94103

Corinne Winter, Executive Director
Silicon Valley Bicycle Coalition
1922 The Alameda, Suite 420
San Jose, CA 95126

Gladwyn D'Souza
Chair – Transportation Committee
Sierra Club, Loma Prieta Chapter
3921 East Bayshore Road, Suite 204
Palo Alto, CA 94303

Ms. Stephanie Isaacson, Public Affairs
Pacific Gas and Electric Co.
275 Industrial Road
San Carlos CA 94070

**Local Agencies**

George White, Director
Planning Department
City of Pacifica
1800 Francisco Blvd.
Pacifica, CA 94044

Van Ocampo, Director
Public Works Department
City of Pacifica
155 Milagra Drive
Pacifica, CA 94044

**Federal Elected Officials**

The Honorable Barbara Boxer
United States Senator
1700 Montgomery Street, Suite 240
San Francisco, CA 94111

The Honorable Dianne Feinstein
United States Senator
One Post Street, Suite 2450
San Francisco, CA 94104

The Honorable Jackie Speier
Representative in Congress, 12th District
400 South El Camino Real, Suite 750
San Mateo, CA 94402-1704

**State Elected Officials**

Jerry Hill, State Assembly District 19
1528 S. El Camino Real #302
San Mateo 94402

Leland Y. Yee, State Senate District 8
400 S. El Camino Real, Ste 630
San Mateo CA 94402
State Capitol Room 4048
Sacramento, CA 95814

**Local Elected Officials**

Don Horsley, San Mateo Board of Supervisors, District 3
Hall of Justice
400 County Center
Redwood City, CA 94063

Mary Ann Nihart, Mayor
City of Pacifica
170 Santa Maria Avenue
Pacifica, CA 94044

**Local Organizations and Individuals**

Hal Bohner, Attorney
115 Angelita Avenue
Pacifica, CA 94044

Pascuzzi, Moore & Stoker
2377 W. Shaw Avenue, Suite 201
Fresno, CA 93711

Mitch Reid
P.O. Box 269
Pacifica, CA 94044

Karen Rosenstein
200 Troglia Terrace
Pacifica, CA 94044

Mark Stechbart
mstechbart@msn.com

# Appendix A

## CEQA Checklist

**Supporting documentation of all CEQA checklist determinations is provided in Chapters 2 and 3 of this Environmental Impact Report/Environmental Assessment. Documentation of "No Impact" determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or compensation measures is under the appropriate topic headings in Chapters 2 and 3.**

## CEQA Environmental Checklist

| 04-SM-1 | 41.7/43.0 | 04-254600 |
|---|---|---|
| Dist.-Co.-Rte. | P.M/P.M. | E.A. |

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

| | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **I. AESTHETICS**: Would the project: | | | | |
| a) Have a substantial adverse effect on a scenic vista | ☐ | ☐ | ☒ | ☐ |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway | ☐ | ☐ | ☒ | ☐ |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | ☐ | ☐ | ☒ | ☐ |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | ☐ | ☐ | ☒ | ☐ |
| **II. AGRICULTURE AND FOREST RESOURCES**: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project: | | | | |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | ☐ | ☐ | ☐ | ☒ |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | ☐ | ☐ | ☐ | ☒ |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |

**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:

| | | | | |
|---|---|---|---|---|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | ☐ | ☐ | ☒ | ☐ |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | ☐ | ☐ | ☒ | ☐ |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | ☐ | ☐ | ☒ | ☐ |
| d) Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☐ | ☒ | ☐ |
| e) Create objectionable odors affecting a substantial number of people? | ☐ | ☐ | ☐ | ☒ |

**IV. BIOLOGICAL RESOURCES**: Would the project:

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

| | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☐ | ☒ | ☐ |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ☐ | ☒ | ☐ | ☐ |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ☐ | ☐ | ☒ | ☐ |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | ☐ | ☐ | ☐ | ☒ |
| **V. CULTURAL RESOURCES**: Would the project: | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | ☐ | ☐ | ☐ | ☒ |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | ☐ | ☐ | ☒ | ☐ |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☐ | ☒ | ☐ |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☐ | ☒ | ☐ |
| **VI. GEOLOGY AND SOILS**: Would the project: | | | | |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | ☐ | ☐ | ☐ | ☒ |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? | ☐ | ☐ | ☒ | ☐ |
| ii) Strong seismic ground shaking? | ☐ | ☐ | ☒ | ☐ |
| iii) Seismic-related ground failure, including liquefaction? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| iv) Landslides? | ☐ | ☐ | ☐ | ☒ |
| b) Result in substantial soil erosion or the loss of topsoil? | ☐ | ☐ | ☐ | ☒ |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | ☐ | ☐ | ☐ | ☒ |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | ☐ | ☐ | ☐ | ☒ |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | ☐ | ☐ | ☐ | ☒ |

**VII. GREENHOUSE GAS EMISSIONS**: Would the project:

| | |
|---|---|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?<br><br>b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document. |

**VIII. HAZARDS AND HAZARDOUS MATERIALS**: Would the project:

| | | | | |
|---|---|---|---|---|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | ☐ | ☐ | ☐ | ☒ |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☐ | ☒ | ☐ |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | ☐ | ☐ | ☒ | ☐ |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☐ | ☒ |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | ☐ | ☐ | ☐ | ☒ |

**IX. HYDROLOGY AND WATER QUALITY**: Would the project:

| | | | | |
|---|---|---|---|---|
| a) Violate any water quality standards or waste discharge requirements? | ☐ | ☐ | ☒ | ☐ |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | ☐ | ☐ | ☐ | ☒ |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? | ☐ | ☐ | ☒ | ☐ |
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? | ☐ | ☐ | ☒ | ☐ |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | ☐ | ☐ | ☒ | ☐ |
| f) Otherwise substantially degrade water quality? | ☐ | ☐ | ☒ | ☐ |

| | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | ☐ | ☐ | ☐ | ☒ |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | ☐ | ☐ | ☒ | ☐ |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | ☐ | ☐ | ☐ | ☒ |
| j) Inundation by seiche, tsunami, or mudflow | ☐ | ☐ | ☐ | ☒ |

**X. LAND USE AND PLANNING**: Would the project:

| | | | | |
|---|---|---|---|---|
| a) Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| 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? | ☐ | ☐ | ☐ | ☒ |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | ☐ | ☐ | ☐ | ☒ |

**XI. MINERAL RESOURCES**: Would the project:

| | | | | |
|---|---|---|---|---|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | ☐ | ☐ | ☐ | ☒ |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | ☐ | ☐ | ☐ | ☒ |

**XII. NOISE**: Would the project result in:

| | | | | |
|---|---|---|---|---|
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | ☐ | ☐ | ☒ | ☐ |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | ☐ | ☐ | ☒ | ☐ |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | ☐ | ☐ | ☒ | ☐ |

| | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | ☐ | ☐ | ☒ | ☐ |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |
| ) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |

**XIII. POPULATION AND HOUSING**: Would the project:

| | | | | |
|---|---|---|---|---|
| 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)? | ☐ | ☐ | ☒ | ☐ |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |

**XIV. PUBLIC SERVICES**:

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

| | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **XV. RECREATION**: | | | | |
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | ☐ | ☐ | ☐ | ☒ |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | ☐ | ☐ | ☐ | ☒ |
| **XVI. TRANSPORTATION/TRAFFIC**: Would the project: | | | | |
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | ☐ | ☐ | ☐ | ☒ |
| b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? | ☐ | ☐ | ☐ | ☒ |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | ☐ | ☐ | ☐ | ☒ |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☐ | ☐ | ☐ | ☒ |
| e) Result in inadequate emergency access? | ☐ | ☐ | ☐ | ☒ |
| f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? | ☐ | ☐ | ☐ | ☒ |
| **XVII. UTILITIES AND SERVICE SYSTEMS**: Would the project: | | | | |
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | ☐ | ☐ | ☐ | ☒ |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☐ | ☐ | ☒ | ☐ |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | ☐ | ☐ | ☐ | ☒ |
| e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | ☐ | ☐ | ☐ | ☒ |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | ☐ | ☐ | ☐ | ☒ |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? | ☐ | ☐ | ☐ | ☒ |

**XVIII. MANDATORY FINDINGS OF SIGNIFICANCE**

| | | | | |
|---|---|---|---|---|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | ☐ | ☒ | ☐ | ☐ |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | ☐ | ☐ | ☒ | ☐ |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | ☐ | ☐ | ☒ | ☐ |

# Appendix B

## Title VI Policy Statement

**DEPARTMENT OF TRANSPORTATION**
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY 711
www.dot.ca.gov

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March 16, 2012

## NON-DISCRIMINATION POLICY STATEMENT

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

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Mario Solis, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353, TTY 711, fax (916) 324-1869, or via email: *mario_solis@dot.ca.gov*.

MALCOLM DOUGHERTY
Acting Director

# Appendix C

## Summary of Relocation Benefits

# California Department of Transportation
# Relocation Assistance Program

## DECLARATION OF POLICY

"The purpose of this title is to establish a uniform policy for fair and equitable treatment of persons displaced as a result of federal and federally assisted programs in order that such persons shall not suffer disproportionate injuries as a result of programs designed for the benefit of the public as a whole."

The Fifth Amendment to the U.S. Constitution states, "No Person shall…be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation." The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 Code of Federal Regulations, Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments, as discussed below.

## FAIR HOUSING

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This Act, and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require the Department to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displacee in order to see that all payments and benefits are fully utilized, and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations, and also

are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Department relocation advisor.

## RELOCATION ASSISTANCE ADVISORY SERVICES

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, the Department will provide relocation advisory assistance to any person, business, farm or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the United States. The Department will assist eligible displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are "decent, safe and sanitary." Nonresidential displacees will receive information on comparable properties for lease or purchase (For business, farm and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning Federal and State assisted housing programs, and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable "decent, safe and sanitary" replacement dwelling, available on the market, is offered to them by the Department.

## RESIDENTIAL RELOCATION PAYMENTS

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Assistance Program can be summarized as follows:

*Moving Costs*

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until the Department obtains control of the property in order to be eligible for relocation payments.

*Purchase Differential*

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 180 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate. The maximum combination of these three supplemental payments that the owner-occupant can receive is $22,500. If the total entitlement (without the moving payments) is in excess of $22,500, the Last Resort Housing Program will be used (See the explanation of the Last Resort Housing Program below).

*Rent Differential*

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by the Department prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when the Department determines that the cost to rent a comparable “decent, safe and sanitary” replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain

limitations noted under the Down Payment section below. The maximum amount payable to any eligible tenant and any owner-occupant of less than 180 days, in addition to moving expenses, is $5,250. If the total entitlement for rent supplement exceeds $5,250, the Last Resort Housing Program will be used.

In order to receive any relocation benefits, the displaced person must buy or rent and occupy a “decent, safe and sanitary” replacement dwelling within one year from the date the Department takes legal possession of the property, or from the date the displacee vacates the displacement property, whichever is later.

*Down Payment*

The down payment option has been designed to aid owner-occupants of less than 180 days and tenants in legal occupancy prior to Caltrans’ initiation of negotiations. The down payment and incidental expenses cannot exceed the maximum payment of $5,250. The one-year eligibility period in which to purchase and occupy a “decent, safe and sanitary” replacement dwelling will apply.

*Last Resort Housing*

Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displacee cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the $22,500 and $5,250 limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, the Department will within a reasonable length of time, personally contact the displacees to gather important information, including the following:

- Number of people to be displaced;
- Specific arrangements needed to accommodate any family member(s) with special needs;
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family;
- Preferences in area of relocation;
- Location of employment or school.

## NONRESIDENTIAL RELOCATION ASSISTANCE

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

### *Moving Expenses*

Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items acquired in the Right of Way contract may not be moved under the Relocation Assistance Program. If the displacee buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.
- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to $2,500, for reasonable expenses actually incurred.

### *Reestablishment Expenses*

Reestablishment expenses related to the operation of the business at the new location, up to $10,000 for reasonable expenses actually incurred.

### *Fixed In Lieu Payment*

A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses which meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than $1,000 nor more than $20,000.

## ADDITIONAL INFORMATION

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displacee for assistance

under the Social Security Act, or any other law, except for any Federal law providing local “Section 8” Housing Programs.

Any person, business, farm or nonprofit organization which has been refused a relocation payment by the Department relocation advisor or believes that the payment(s) offered by the agency are inadequate, may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement for a pubic project. A list of ineligible expenses can be obtained from Caltrans Right of Way. California’s law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

# Appendix D

## List
## of
## Acronyms

# List of Acronyms

| | |
|---|---|
| BRT | bus rapid transit |
| CEQA | California Environmental Quality Act |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| CFR | Code of Federal Regulations |
| CO | carbon monoxide |
| $CO_2$ | carbon dioxide |
| CWA | Clean Water Act |
| EB | eastbound |
| FHWA | Federal Highway Administration |
| HOV | high occupancy vehicle |
| ISA | Initial Site Assessment |
| MCE | maximum credible earthquake |
| MTC | Metropolitan Transportation Commission |
| NAAQS | National Ambient Air Quality Standards |
| NB | northbound |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| $NO_2$ | nitrogen dioxide |
| NPDES | National Pollutant Discharge Elimination System |
| $O_3$ | ozone |
| PM | particulate matter |
| PQS | Professionally Qualified Staff |
| PRC | (California) Public Resources Code |
| RAP | Relocation Assistance Program |
| RCRA | Resource Conservation and Recovery Act |
| RTP | Regional Transportation Plan |
| RWQCB | Regional Water Quality Control Board |
| SB | southbound |
| SHPO | State Historic Preservation Officer |
| SMCTA | San Mateo County Transportation Authority |
| $SO_2$ | sulfur dioxide |
| SR | State Route |
| SWPPP | Stormwater Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| WB | westbound |

# Appendix E

## FHWA Project-Level Conformity Determination

ATTACHMENT 2

# Air Quality Conformity Task Force Summary

## Meeting Notes April 28, 2011

**Air Quality Conformity Task Force**
**Summary Meeting Notes**
**April 28, 2011**

Attendance:
Ginger Vagenas – EPA
Ted Matley – FTA
Stew Sonnenberg– FHWA
Dick Fahey – Caltrans
Mike Brady – Caltrans
Jason Crow. – CARB
Val Ignacio – Caltrans
Alan Chow – Caltrans
Lester Lee – Caltrans
Glenn Kinoshka – Caltrans
Joy Lee - MTC
Raymond Odunlami – MTC
John Martin - TAM
Eric Cordoba - SFCTA
Jeff Goodson – AECOM
Corey Lang – AECOM
Brad Leveen – Mark Thomas and Company
John Schwarz – David J. Powers & Associates
Keith Pommerenck – Illingworth & Rodkin
Ashley Nguyen – MTC
Grace Cho – MTC
Adam Crenshaw – MTC
Sri Srinivasan – MTC
Ross McKeown – MTC

1. **Welcome and Self Introductions:** Ashley Nguyen (MTC) called the meeting to order at 9:35am. See attendance roster above. She went immediately into the agenda items for discussion.

2. **March 7, 2011 Air Quality Conformity Task Force Meeting Summary:** Ashley explained MTC staff seeks approval of the Task Force meeting summary held on March 7, 2011. She asked the Task Force if there were any additions or corrections to the minutes. Hearing that there were no objections to the summary, she asked for the Task Force to approve the meeting summary. The Task Force approved the meeting summary.

3. **$PM_{2.5}$ Interagency Consultations:** To begin the interagency consultations for $PM_{2.5}$ project level conformity Grace Cho (MTC) asked each project sponsor give a brief overview of the project prior to opening up the project for questions by the Task Force.

   ***POAQC Status Determinations***
   *Caltrans/Metropolitan Transportation Commission (MTC): Freeway Performance Initiative*
   Val Ignacio (Caltrans) explained the scope of the Freeway Performance Initiative (FPI) is to install ramp meters and traffic operation systems (TOS) along seven freeway corridors throughout the Bay Area region. In addition to the ramp metering and TOS elements, the scope also includes widening a select number of freeway on/off ramps. The FPI is not projected to increase the capacity of ramps or the freeway mainlines. Nor will the FPI increase the percentage of diesel truck traffic on the ramps or on the mainline of the freeways. The level of service (LOS) looks to improve for 133 of the ramps in the opening year and 119 ramps in the horizon year. A small number of ramps will see a slight drop in LOS in the opening year (10 ramps) and horizon year (21 ramps).

   Dick Fahey (Caltrans) did not have any further questions about the project and felt this project is not a project of air quality concern (POAQC). Ashley had noted the truck volumes for the entire project is projected to remain very low and therefore she is inclined to agree with Dick the project is not a POAQC. Mike Brady (Caltrans) agreed and said he

appreciated how Caltrans and MTC coordinated to bring this project as a bundle to the Task Force for interagency consultation.

Stew Sonnenberg (FHWA) asked Caltrans if the ramp widening portion would be tapered and contained within the ramp. Val answered the widening elements of FPI would be contained on the ramp and would not touch the mainline. In receiving an answer to his question, Stew agreed with others the FPI is not a POAQC. Ginger Vagenas (EPA) and Jason Crow (CARB) agreed.

***Final Determination***: FHWA, FTA, EPA, Caltrans, CARB and the remaining Task Force members concurred and determined the Freeway Performance Initiative is not a project of air quality concern.

*City of Pacifica/San Mateo County Transportation Authority (SMCTA): SR 1 – Fassler to West Port Drive Widening.*

Brad Leveen (Mark Thomas and Company) provided a brief presentation, explaining the State Route (SR) 1 project would widen an existing portion of SR 1 from a four lane highway into six lanes over a 1.3 mile segment. The widening is primarily confined between two signalized intersections between Fassler Avenue/Rockway Beach Avenue and Reina Del Mar Avenue. The widening is intended to help facilitate operations of traffic trying to access the adjacent residential area between the intersections. The traffic decreases beyond the intersections. The purpose of the project is to help relieve the existing traffic congestion, intersection operations and delay which continues to build on project segment.

Brad turned over the remainder of the presentation to John Schwartz (David J. Powers & Associates) and Keith Pommerenck (Illingworth & Rodkin Inc.) to provide the environmental and air quality conditions of the project. Keith and John reiterated the purpose of the project is to relieve congestion in to corridor which is projected to worsen and deteriorate the LOS at the intersections. Keith then explained there is no projected change in vehicle mix, but the average daily traffic (ADT) is projected to increase with or without the project at the same rate. The truck percentage is expected to stay the same at 2.7%. With the implementation of the project the LOS is expected to improve from LOS F to C or D rating.

Upon opening the project for questions, Mike asked the project sponsor if the additional lane is to function essentially as an auxiliary lane since the widening is only for a short segment. Brad, John, and Keith agreed the additional lanes would ultimately function in an auxiliary lane capacity. Ginger asked for clarification as to whether the widening of the roadway would extend beyond the signalized intersection. Brad said the project does extend the widening of the lanes for a very short segment beyond the intersections but tapes back to four lanes. Upon receiving clarification, no additional questions were asked. All Task Force members came to consensus that the project is not a POAQC.

***Final Determination***: FHWA, FTA, EPA, Caltrans, CARB and the remaining Task Force members concurred and determined the SR 1 – Fassler to West Port Drive Widening project is not a project of air quality concern.

*San Francisco County Transportation Authority: Yerba Buena Island (YBI) Ramp Improvements*

Eric Cordoba (SFCTA) explained the Yerba Buena Island Ramp Improvement project is to replace the existing westbound on and off-ramps located on the eastern side of YBI with new expanded westbound on and off-ramps. The purpose of the replacement is to improve safety and operation. The expansion of the ramps would increase the deceleration length for the off ramps and increase the merging distance for the on-ramps. The project scope also includes adding a ramp metering component. From the environmental analysis conducted, the project is not projected to increase vehicle capacity and will not change the existing traffic mix currently utilizing the ramps. Without the construction of the project, the projected level of service (LOS) for the ramps in 2035 is expected to fail at an F rating.

Once the project was opened up for comments, a question posed by the Task Force was whether the analysis took into account the projected population due to the planned development for Yerba Buena Island. Eric responded the analysis did take the future population from the planned development was taken into consideration. Since no further questions were asked, Ashley asked for a motion for a POAQC determination. The Task Force came to consensus the project is not a POAQC.

***Final Determination***: FHWA, FTA, EPA, Caltrans, CARB and the remaining Task Force members concurred and determined the Yerba Buena Island Ramp Improvements project is not a project of air quality concern.

**Exempt Project List from $PM_{2.5}$ Project Level Conformity**

Grace Cho (MTC) explained the project list submitted to the Task Force are those which the individual project sponsors identified as exempt from $PM_{2.5}$ project level conformity. The projects being presented to the Task Force seek concurrence that they are exempt from project level conformity. Grace also explained there were a small subset of projects which had been viewed at the previous meeting and required further information. Those projects indicated with an astrix had been carried over to the list being viewed and the additional information was included in footnotes. Ashley asked the Task Force if there were any further questions regarding the projects. Seeing there were none, the Task Force concurred the projects were exempt from $PM_{2.5}$ project level conformity.

***Final Determination***: FHWA, FTA, EPA, Caltrans, CARB and the remaining Task Force members concurred the list of projects as exempt from $PM_{2.5}$ project level conformity.

4. **Guidance on $PM_{2.5}$ Project Level Conformity Exemption Code 40 CFR 93.126 – Safety – Road Diets Qualification:** Sri Srinivasan (MTC) explained a question was raised at the previous Task Force meeting whether road diets can be considered exempt under 40 CFR 93.126 through the safety category. MTC staff was tasked at the last meeting to provide a working definition of safety and traffic calming, which staff believed road diet projects could be categorized under for an exemption. Sri presented the research completed by staff by first explaining that safety projects have a wide definition as illustrated by the current projects deemed exempt in the 2011 TIP. She then presented information about the effects of road diet on facility capacity and circulation. Based on the research, road diet projects completed on a road facility under a certain average daily traffic volume did not change capacity, increased the safety for other users, and did not impact air quality.

Finally, Sri provided information for three road diet projects which seek project level conformity determinations. These projects were: Petaluma Boulevard south Road Diet, Palo Alto California Avenue Transit Hub, and Delaware Street Bicycle Lane and Streetscape. With the information provided for the Task Force, Sri asked if road diets can be considered exempt from either regional and/or project level conformity.

Ginger mentioned she took this issue to OTAC and their response was that EPA does not believe road diets can clearly fit under the existing CFR exemptions and therefore road diet projects needs to be reviewed through consultation. Mike mentioned in other regions within the state road diets are being reviewed through consultation so this approach would remain consistent. Conclusion by the Task Force determined road diets are not exempt from project level conformity and must undergo interagency consultation to receive a POAQC status.

Sri followed up by asking the Task Force whether road diets are exempt from regional emissions analysis. Ashley said she believed they would because the road diet projects, as exemplified, are not deemed regionally significant and would not be coded into the emissions analysis model. Mike responded saying road diets, depending on the project scope and context, may fit under regional exemption 40 CRF 93.127 as a lane channelization, however consideration as to whether the project is regionally significant needs to be taken into account. Ashley explained in the Bay Area the road diet projects funded were not considered regionally significant.

As a procedural streamlining of reviewing road diet projects, Mike suggested MTC bring all road diet projects before the Task Force in a list style format and clearly indicate the projects are non-exempt from regional emissions analysis and not regionally significant. The Task Force can then make a project level POAQC determination. Task Force members Jason Crow (CARB), Ted Matley (FTA), and Stew liked the streamlined approach presented by Mike. MTC staff agreed from the meeting forward, road diet projects would be presented to the Task Force in the streamlined listed format for POAQC consultation. Additionally the Task Force made a final determination that the example road diet projects are not a POAQC.

5. **Proposed TIP Amendment 11-06 – City of Santa Rosa – Sixth Street Bicycle and Pedestrian Linkage Project (SON090031):** Ashley explained the federal and state partners of the Task Force had conducted an offline interagency consultation for the City of Santa Rosa on the Sixth Street Bicycle and Pedestrian Linkage project. As a result of the consultation, the project sponsor and MTC staff agreed to conduct a TIP amendment to reflect the exempt elements in the scope of the Sixth Street Bicycle and Pedestrian Linkage project. Additionally, the parent project, Sonoma US 101 HOV - SR 12 to Steele & Steele Lane I/C (TIP ID: SON010001) will be amended to include the non-exempt elements. The intention of the item was to document the offline consultation and demonstrate a new regional conformity analysis will not be triggered by the amendment actions. The conformity analysis conducted for the 2011 TIP included both projects and TIP Amendment 11-065 will not change the exempt and non-exempt status of either project.

6. **Other Business:** Sri provided a short update in regards to the transit fleet analysis MTC staff was tasked to conduct for the Task Force. The purpose of the transit fleet analysis is

Task Force meeting scheduled in May.

Ginger also provided a short update on an item she was tasked to ask QTAC. Ginger posed the question to OTAC if park and ride facilities could fall under an exemption for project level conformity. From OTAC's review, park and ride facilities do not clearly fit under on the exemptions outlined in the CFR exempt from project level conformity and therefore would need to undergo interagency consultation.

Adam Crenshaw (MTC) also brought an item before the Task Force regarding TIP Amendment 11-06. Adam explained MTC staff plans to proceed with a TIP Amendment 11-06 to program existing funds from FY2009-10 to FY2011-12 for the Oregon-Page Mill Expressway (TIP ID SCL050080). In the 2011 TIP the project does not have any programmed funding for the four-year cycle. MTC staff wanted to present the item to confirm the action will not trigger a new regional conformity determination. Mike and the rest of the Task Force confirmed the action will not trigger a new conformity analysis.

With no additional business items, the meeting was adjourned at 10:45am.

U.S. Department of Transportation
Federal Highway Administration

California Division

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001

May 30, 2012

In Reply Refer To:
HDA-CA
EA 04-254600

Mr. Bijan Sartipi, District Director
California Department of Transportation
111 Grand Avenue
P.O. Box 23360
Oakland, CA 94612

Attention: Allen Baradar, Office Chief, Chief of Environmental Engineering

Dear Mr. Baradar:

SUBJECT: FHWA Project Level Conformity Determination for the State Route 1/Calera Parkway Project

On May 9, 2012, the California Department of Transportation (Caltrans) submitted to the Federal Highway Administration (FHWA) a request for a project level conformity determination for the State Route 1/Calera Parkway Project in the City of Pacifica, San Mateo County. The project is in an area that is designated Nonattainment for $PM_{2.5}$ and Ozone and Maintenance for Carbon Monoxide (CO).

The project level conformity analysis submitted by Caltrans indicates that the transportation conformity requirements of 40 C.F.R. Part 93 have been met. The project is included in the Metropolitan Transportation Commission's (MTC) currently conforming *Transportation 2035 Plan (RTP)* and the *2011 Regional Transportation Improvement Program (FTIP).* The current conformity determinations for the RTP and FTIP were approved by FHWA and the Federal Transit Administration (FTA) on December 14, 2010. The design concept and scope of the preferred alternative have not changed significantly from those assumed in the regional emissions analysis.

As required by 40 C.F.R. 93.116 and 93.123, the $PM_{2.5}$ analysis is included in the documentation. The CO hotspot analysis was included in an earlier submittal and a project-level conformity determination was made on June 18, 2009. The $PM_{2.5}$ analysis demonstrates that the project will not create any new violation of the standards or increase the severity or number of existing violations.

Based on the information provided, FHWA finds that the Conformity Determination for the State Route 1/Calera Parkway Project in the City of Pacifica, San Mateo County conforms to the State Implementation Plan (SIP) in accordance with 40 C.F.R. Part 93.

If you have any questions pertaining to this conformity finding, please contact Stew Sonnenberg, FHWA Air Quality Specialist, at (916) 498-5889 or by email at Stew.Sonnenberg@dot.gov.

Sincerely,

For
Vincent P. Mammano
Division Administrator

cc: (email)
M. Brady, Caltrans HQ
G. Kinoshita, D-4
J. Hannon, FHWA

SSonnenberg/km

# Appendix F

## Public Hearing Transcript

PUBLIC MEETING

STATE ROUTE 1/CALERA
PARKWAY PROJECT IN
PACIFICA

**CERTIFIED COPY**

REPORTER'S TRANSCRIPT OF PUBLIC COMMENTS

| | |
|---|---|
| Date: | Thursday, September 22, 2011 |
| Time: | 6:30 p.m. |
| Location: | PACIFICA COMMUNITY CENTER<br>540 Crespi Drive<br>Pacifica, CA 94044 |
| Reported By: | Noelia Espinola, CSR<br>License Number #8060 |

#40442

Advantage ARS Reporting
Services, LLC
*1083 Lincoln Avenue, San Jose, California 95125, Telephone (408) 920-0222, Fax (408) 920-0188*

P R O C E E D I N G S

MS. GOODWIN: So, starting off, we'll start off with Julie Thomas, and she'll be followed immediately by Jennifer Ball. And then the third speaker will be Jim Wagner. And then I'll -- as we start announcing the next ones, I'll just keep adding to that.

So, if you would come down to Irma, she's -- or Irma could go over to Julie. Either way. That's great. If we want to use the sides of the room, that works for me too.

So, Julie, you've got three minutes. Let us know what you're thinking.

MS. THOMAS: I find this an appalling and frivolous waste of taxpayer money. Where -- you're talking about creating -- it looks like a snake that ate a giant animal, and it's going to be small at one end, huge in the middle and small at the other end. It sounds like the Golder (phonetic) plan, which was a plan to build a six-lane freeway all the way down the coast and build Daly City-style housing all the way through.

California is closing schools. We're closing hospitals. We're closing food programs. We're closing

homeless programs. We're closing absolutely everything that people need, but we have the money to spend 50-plus million dollars on this project.

And the other -- and the other thing is, I have never known Caltrans to come in on budget. Every single project that I have ever heard of has become far above the cost that was told to the public before it was built.

And taxpayers need a break in this state. We do not need this project, which is so small and so ridiculous and such a frivolous waste of taxpayer money. Yes, people need jobs. But let's put them to work building something that people need. Build another -- build another school. Build programs. Build things that people need. Do not build this ridiculous, frivolous highway that nobody needs and that won't provide anything for the people of California.

Thank you.

MS. GOODWIN: Thank you, Julie.

Jennifer. Jennifer followed by Jim Wagner followed by Susan Vellone.

Thank you, Jennifer. Go ahead, Jennifer.

MS. BALL: Well, when you hold it -- why didn't you explain that to me?

Okay. I moved here six years ago. My husband said, What do you think about moving to the Bay Area?

And I did a lot of research. You should look at what Pacifica is on the internet, and you will find that this is a town that fights Caltrans for more than 40 years. This town didn't want the tunnel. That tunnel is behind project, it's behind schedule, by a year and a half is my understanding. And you might not blame that on Caltrans, but you hired the people that are doing the tunnel. You fought 380. We fought 380 because you wanted to put it into Vallemar.

My understanding is the same amount of people lived here when this place was incorporated 50 years ago. So why is there so much traffic? It's not us. It's people coming from the south or the north. So we are doing this for other towns. That seems unacceptable to me.

And I support the woman who said we need to support the schools. We do not need to build more in global warming. It's insane. I moved here because Pacifica cares about land like it cares about its children. And it will fight. It will fight to stop you from doing this insane project.

MS. GOODWIN: Jennifer, thank you.

Jim? Jim followed by Susan followed by Eileen.

Okay. Jim, you're on.

MR. WAGNER: Well, number one, I appreciate the passion of the last speaker. It's tough to follow something like that, but I'll attempt to.

I sit on the board of directors for the Chamber of Commerce of Pacifica, and I've been a local businessman for 22 years here. I have also commuted that stretch of highway with children, go to work and back home, so I understand the frustrations involved in trying to navigate that.

But one of the things -- and the primary thing that I'm concerned about is the safety of this town. And, in light of that, I have to read this very quickly.

"We are retired professional firefighters who have served in Pacifica collectively for over 100 years. We support the Route 1 traffic bottleneck solution being considered.

"It is imperative that Route 1 be widened with improved east-west turning lanes for very sound reasons. Safety, in our opinion, is the number one reason this improvement needs to be facilitated as soon as possible. Our firefighters are dedicated,

hard-working professionals. We understand the consequences that delays in help can cause. The condition on Route 1 at this choke point is intolerable.

"Everyone has seen the commute traffic congestion. Couple this traffic density with poor road shoulders and you have a problem with emergency vehicles getting through. A breakdown, accident or flat tire only makes matters worse. We have heard the arguments that it's only a fifteen-minute delay. Fifteen minutes. Fifteen minutes can be the difference between life and death for someone suffering from an accident or heart attack.

"For most of the coast, the nearest hospital is north of Pacifica, which requires ambulance runs north on Route 1. If a fire emergency breaks out during commute times, fire engines are en route as well. If there's a large fire in the north end of Pacifica, equipment has to be sent north to assist or repositioned to the south to provide standby coverage. Firefighters and EMT personnel absolutely cannot afford to be delayed during emergency service calls.

"In any event, we believe it is irresponsible to wait any longer to implement a Route 1 widening to solve traffic congestion we have seen increase over the

last 20 years.

"Route 1 is a regional highway, and thousands of Pacificans use it as their only way out of town.

"For emergency personnel, Route 1 is our lifeline to protect Pacifica. We do not want to tell any Pacifica resident we were late to a fire or medical emergency because we were stuck in traffic.

"Signed, Jim Bonner, battalion chief, Pacifica Fire Department, retired, 38 years of service. Bob Trapp, battalion chief, Pacifica Fire Department, retired, 33 years of service."

MS. GOODWIN: Time's up. I'm sorry, Jim.

MR. WAGNER: And Steve Engler.

MS. GOODWIN: Thank you.

Susan followed by Eileen followed by Bill Collins.

And, Irma, if we can get you to move over a little bit. I don't think Jim can see the cards very well. So if we could kind of get it so that our speakers can see it or maybe you could pull out a little bit and sit more noticeably. Thank you.

Sorry, Susan. We want to make sure you get your full three minutes. Go ahead.

MS. VELLONE: I won't take that long.

Good evening. My name is Susan Vellone. I'm

the past president of the Pacifica Chamber of Commerce.

I just wanted to give a little bit of a business perspective -- my name is Susan Vellone from the Pacifica Chamber of Commerce. I'm past president. I just want to give a little bit of a business perspective on my side.

As a business owner in Pacifica for 32 years, I've been flustered by the terrible traffic jams in mornings and late afternoons. Clients have been frustrated, knowing that they will not be able to make their appointments on time and have to reschedule for a later date. This is a direct financial impact on me and my staff and many other service industry businesses that work on time schedules. No client, no money, no tax revenue for the City. That's what happens. When somebody doesn't show up, that's like me walking up to you; you open up your wallet, and I pull out the hundred dollar bill. It does hurt. There is a financial impact. We cannot afford to fall behind with this lost revenue.

My additional concern, as a wife of a first responder, is the reduced city financial support for the fire and police department within our city. This has caused staff reduction, fewer fire engines, police units, and lengthened response time. Reducing traffic

congestion during peak hours will improve the flow of traffic and save lives.

On the environmental issues, City Council is keen on eliminating the carbon footprint within our community. There were concerns when Walgreens moved into our city. Questions were asked, if delivery trucks could turn off their engines and not idle. This would keep carbon monoxide from flowing into our clean ocean air. Traffic in the morning and evening, leaving and returning in our community, add up to approximately three hours of cars idling in this segment of this highway.

And, additionally, I have one question to -- this might be deferred to the legal department. We know that if impacted properties will be moved, that they will get fair market value. Will they also lose future revenue? Will they get a settlement on loss of future revenue?

MS. GOODWIN: Beth, can you speak to that?

MS. VELLONE: So it's not just on the property that they will lose, that they will be paid for, but all of the future (inaudible).

MS. GOODWIN: We'll give Beth the microphone.

MS. PERRILL: My name is Beth Perrill with Caltrans.

If a business is impacted by a project such as this, then they would have to claim damages after the project. So you would have to keep complete records before and after the project to prove and show that damages had been incurred.

MS. VELLONE: And how long would that type of process be for a business?

MS. PERRILL: Well, you'd have to compare your records before and afterwards.

MS. VELLONE: Okay. Just curious. Okay. Thank you.

MS. GOODWIN: So, businesses, keep good records. You never know when you might need them.

Okay. Eileen. Followed by Bill Collins. And then our speaker after Bill will be Chris Porter.

MS. COREY: First off, I'd like to say thank you to the strong women that spoke in the beginning, because they were right.

I live in Vallemar with my father, who is a beautiful elder that I look after. And they've lived there -- my parents lived there for over 40 years.

This is a very bad idea. We already live with congestion. And all the people that are saying they're going to save time, I suggest this: Set your clock 20 minutes early. Okay? It's not that hard. It

doesn't take a genius.

The other thing that is blowing my mind about this whole thing is they're talking about 2035. Come on. Are we going to even be here in 2035, the way things are going? The last developer that ran through this town wanted to remove part of a mountain in Rockaway and put a fancy hotel. Hello, tsunami.

So what I'm saying to everyone: Quit looking to the future to be saved. The only thing -- the only people that are going to save you is yourselves.

And we need to start really honoring what we have. Pacifica is known for the beauty of nature. You want to be saved financially? You know, start advertising in the City, start making nicer places for them to come to see. Make nice bike paths.

And the other thing I want to address, too, is the fact that all these meetings are costing taxpayers. I'm really curious who is paying for this stuff. Who is paying for this? Sorry. I love employing people, I really do, but not for frivolous things. This is not going to solve anything.

Also, nobody has addressed the fact that there is a school full of children three blocks away. This is a freeway. I don't care how anybody wants to say it. It will have direct impact on the air these

kids have to breathe.

As well as the people that live in Vallemar. We already suffer a lot from traffic congestion. I deal with it. I am directly impacted. We live six blocks away from the highway.

So, if I can deal with it, everyone else needs to buckle up and say, Tough patootie. This is life. Deal with it. Life is hard. You got to get used to it.

And the environment is important, because you know what? We're the environment. Without it, we're screwed.

And I'm really tired of all of this being saved by development. Get a life, people. We don't need development. We need to be taking out our lawns, riding more bicycles, getting healthy. And instead of all these parents that car their kids to school, make them walk. I walked two miles to school a day. Okay? I'm healthy and I'm 57.

Bring it on.

MS. GOODWIN: Thank you, Eileen.

Bill Collins followed by Chris Porter followed by Mitch Reid.

Bill? Bill?

MR. COLLINS: I'm sorry that the sponsors of

this meeting spent the first 40 minutes, once again, trying to sell this project on us. I've been to all three meetings, and you always try to sell this and we have to sit and listen to this. I thought we were here -- I mean, I read the EIR. I don't need somebody to tell me about the project again.

But you're not listening to us. At the first meeting, almost seven months ago, my neighbors took the time to offer alternatives.

I was proud of you. You had a lot of good alternatives, and I thought, Wow, there's a lot of good thinking in this room.

And tonight you saw them on the board. You didn't see carpooling, by the way, but you saw the others listed and dismissed -- it was a whole ten seconds -- with no analysis, no cost/benefit studies at all. And that's an insult to my neighbors that took the time to suggest those ideas.

So -- you know, for example, the flex-a-lane. The EIR says, Well, we don't want to pay somebody to move the cones during the day, so we're not going to do that. So hire somebody. Hire somebody.

So that's the way our suggestions are dismissed. And I think it's an affront to the public. I think you're not listening to us. So you can have

20 meetings and you can tell the board how many public meetings you had, but you're really not listening to us.

I want to see the studies of those alternatives you dismissed. And if you don't have them, you need to do them. If you have them, I'd like to see them.

Thank you.

MS. GOODWIN: Thank you, Bill.

Chris Porter followed by Mitch Reid followed by Pete Percira [sic].

Chris?

MS. PORTER: Hi. I'm Chris Porter. I am the president of the Chamber of Commerce this year, and I'm also the general manager of one of the largest companies in this city, Recology of the Coast, that has 19 diesel trucks on the road every day. Okay.

I'm constantly -- I have a letter to the editor that was in the paper yesterday. I'm going to read that.

"I am constantly amazed by the letters and blogs from the people against the widening of Highway 1. A very vocal minority of people always say no. The gang of no makes a lot of noise." And I've heard that already tonight.

I live less than five miles from my office. I live in mid Linda Mar, and I travel to Park -- to Sharp Park. It takes me 30 minutes to get less than five miles. That's ridiculous. And anyone who says I should leave earlier to go to work -- I'm at work from 7:00 to 7:00 every day. So I have a job.

"The Pacifica Chamber of Commerce supports this Highway 1 widening. Let's for once be ahead of the traffic problem that the tunnel will exacerbate during commute time. About half of all Pacifica commuters are stuck in this traffic jam every day. Add to this the bottleneck of all the commuters from Moss Beach down to Half Moon Bay.

"The Route 1 traffic solution is merely designed to expand turning so the north-south commute works better. This solution also features deacceleration lanes and acceleration lanes so those making turns get out of the main traffic stream.

"Every other town in this state works to make its residents' commutes easier. Do readers of this letter prefer to sit in traffic, waste gas, hurt air quality, miss appointments, get your children to school late, or have Pacifica proactively solve a problem that has been building for over the past 20 years?"

The garbage trucks, I believe, in traffic, do

more to hurt the environment than moving along.

MS. GOODWIN: Pete Percira followed by Bill Meyerhoff followed by Mike Hicks.

Pete?

MR. REID: Hi, I'm Mitch Reid. I live about a block away from here.

MS. GOODWIN: Sorry. Mitch. Sorry.

MR. REID: Let me start off by saying that I am for a solution. I am for adding emergency lanes. I think we need a little more extra lanes for that aspect. But I am against the two limited alternatives that we're being forced to accept. I believe that there are other alternatives out there.

I have some concerns about what is listed in the document already. And right now what I'm very concerned about are the two sound walls, one in front of the Shell station and one where the Indian cafe is. Now, they're not shown in the document except for Page 131, which just shows a slight visualization of it.

Now, this has a visual impact. They have great slides and images of other stuff, but they don't show us what the two biggest visual impacts will show in this town. What will this city look like if we have wider highways and two giant sound walls down at

Rockaway Beach? We need to know what those sound walls will look like.

Now, clearly, it says in the document these are potential and possible. There is nothing in the document that says that these sound walls won't be built. They can be built after we make comments on this document. We have not been properly shown this.

Now, the other aspect is, I'm for a solution. I would like to see the light at Vallemar eliminated. I proposed, in the scope meeting, undergrounding -- not an overpass -- undergrounding the road at Vallemar so bikes, pedestrians and strollers can get under the highway. And also, by eliminating it, there's less cars idling.

And I believe that we have to look at the cost of this and not just outright reject this on cost. Because let's look at the cost of the tunnel. It's about 300 million. Now, what I'm talking about is about a 300-foot-long underground thing underneath the highway. I don't think it would be that expensive. I would like to see that explored first. I think it would help the environment and the city.

Thank you.

MS. GOODWIN: Thank you, Mitch.

Pete? Pete Percira followed by Bill.

MR. PEREIRA: Pereira.

MS. GOODWIN: I'm sorry. I can't read your writing. Pereira.

MR. PEREIRA: Yeah. Pete Pereira.

My thinking is that they have gone far enough with this, really. They should really fix the highway from where the freeway ends to Vallemar Boulevard. Get the traffic through here.

And then as far as putting a -- they're talking about putting a median barrier in the middle, with planting. Don't do that. Because you know what happens when you do that? They got to stop and they got to work on this, and they got people working there. And all through the day and night and stuff, you always got traffic congestion. Because that -- besides, it's expensive to keep up that thing. Put a rubber cement barrier and let the traffic go through here and -- my thinking is that the main thing is get the traffic through and get it fixed for the next 30 years. And the way you do that is fix it from where the freeway ends to where Vallemar Boulevard is, and you'll get the traffic through there.

Thank you.

MS. GOODWIN: Thank you, Mr. Pereira.

Bill Meyerhoff. Bill will be followed by

Mike Hicks, who will be followed by Mike Ferreira.

MR. MEYERHOFF: Hi. Bill Meyerhoff, board of directors, Chamber of Commerce. Also, repair facility owner.

I'm a product of the Terra Nova High School, local school system. Had a wonderful auto shop teacher that taught me a lot of life lessons. One of the most important things he taught me was safety first. And my focus on this project is safety.

You know, we have wonderful police and fire services in Pacifica, with dedicated, committed employees. It just doesn't do us much good if they can't get to those in need.

You know, this project is funded now. I'd hate to see us lose this funding and end up with nothing. As I understand, in -- a half-cent sales tax was implemented in 1998 to pay for transportation. I understand that Pacifica also voted in 2004 to extend that half-cent sales tax, with a 75 percent "yes" vote. Thus, the funding.

I think that we need to move forward rather than ignore the serious traffic problem we have. We need this project now. We need it for our safety. We need it for our citizens' sanity.

Thank you.

MS. GOODWIN: Thank you, Bill.

Mike Hicks.

MR. HICKS: Yes, my name is Mike Hicks. And I've been commuting down to Silicon Valley for the last 18 years from here. I've gone from 7:00 o'clock in the morning to 8:00 o'clock in the morning to 9:00 o'clock in the morning.

I notice that, basically, when the school is in is when the traffic backs up. Otherwise, when school is out, it's not a problem.

Hey, I'm all for widening the highway. I think everyone can say that can be a good thing to do, but this is total overkill.

Now, I commute down to Silicon Valley, past 18 years, and I go down De Anza-Mathilda Boulevard, which is the main Sunnyvale boulevard from 280 to 101. I do that every day. It's four miles. It's 14 stoplights. There is Homestead Highway. There is tens of thousands of people that use that commuting that go to Google, Yahoo and Apple.

I can get through there, 13 to 14 minutes. Today I timed it, and I left at 5:00. It took me 13 minutes.

I can't understand why there is two damn stoplights up there, and it takes me more than that

just to get through Sunnyvale -- or Pacifica. And the reason why is because the Sunnyvale Department of Transportation have got that coordinated where all the lights will turn green, where you can constantly flow through. Why in the heck can't we get those two stoplights coordinated so you can flow through like De Anza-Mathilda Boulevard?

Now, there's another question. They have Highway 85. They spent over $50 million in 1995 putting in another lane there. But all that did was just stack up the cars, vertically to horizontally. And anyone who goes down to Silicon Valley knows you can go faster from 280 to 101 using the surface, Mathilda-De Anza.

You want to talk about emergencies, Jim or whoever you are? Don't use 85 to get a cop or an ambulance through there. Take it through De Anza-Mathilda. You'll go through there just like -- just like a breeze.

So, to me, I think it's overkill, for $50 million, to put this freeway in here.

MS. GOODWIN: Mike, time is up. Thank you.

Mike Ferreira, who is going to be followed by Tod Schlesinger and Laurie Goldberg.

MR. FERREIRA: Good evening, folks. My name

is Mike Ferreira. I live in Moss Beach, but I'm here tonight in the capacity of conservation chair for the Loma Prieta chapter of the Sierra Club.

I spoke at the March meeting, and I expressed that the Sierra Club has -- is skeptical about widening a project such as this. And I would have to say, now that I see this, I think we've gone well beyond skepticism.

We will comment in writing by October 7th as to our objections to some of the aspects. But, for tonight, I think I really need to bring forward our disappointment in some of the process issues. The very fact that there have not been any public meetings, City of Pacifica, whereby the citizens can speak to their council or planning commissioners to give voice regarding this project. I've asked people in this town to tell me when there was a council meeting where they could do that, and the only thing that comes close to that is 1999. I find that utterly frustrating.

Because our club has paid attention to Pacifica because it has good environmental citizens. We participate in the endorsement process. We endorse candidates, after interviewing. Have them fill out questionnaires. And we've already asked about this.

And I am immensely disappointed, the club is

immensely disappointed, that October 7th is right around the corner and we have not heard officially from the City of Pacifica what its position is. Pacifica has permit authority, under the Coastal Act, for the portion of this project that is in their local coastal program. Your city should be engaged, publicly and with you, on this project.

That's my primary comment for tonight. We will comment further by October 7th.

Thank you.

MS. GOODWIN: Thank you, Mike.

Tod Schlesinger? Has Tod left? Oh, there he is. Okay. Because I knew I saw Laurie on the on-deck circle. So --

MR. SCHLESINGER: I'm next?

MS. GOODWIN: You're next, Tod. You're next.

MR. SCHLESINGER: I don't need a microphone, do I?

MR. GOODWIN: Yeah, you do.

MR. SCHLESINGER: Yeah, Tod Schlesinger, Linda Mar.

So a few facts and some questions. Because the emotion is nice, but that isn't going to get the job done. So let's deal with some facts.

Is it true or not true that the money that

was allocated for improvements to Highway 1 was originated in 1988? That's my understanding. So you do the math. You got 22 -- this is 23 years later. This is no different than the quarry, the old wastewater treatment plant. Nothing gets done.

So let's look at some alternatives, to mitigate. Because, remember, the tunnel is going to be done before we're going to be done, to get -- if we're done in 2015. It's my understanding is that if this project goes, it will go in 2015.

But here is my questions. Are we going to close the Fairway crossing? It's dangerous. It doesn't serve any purpose.

Are we going to agree that at some point we may utilize the two bus turnouts, one in front of Eureka Square and one in front of Sharp Park, going north and south, that could be ingress and egress?

Are we going to fix the Manor overcrossing?

Are we going to have the onramp at Milagra?

And are we going to coordinate with the school district to get rid of the ridiculous entitlement? Ron Paul just said "endless entitlement." You can't have it, people. You cannot have endless entitlement. You can't have people in Manor and Fairway bringing their kids down to Linda Mar and vice

versa. It's ridiculous. It's an entitlement that has to go. It's contributing to the traffic, and there's no benefit.

So the questions I'm asking are: Is there a backup plan to mitigate some of the traffic in the event we don't get this? Are we going to close the Fairway crossing? There's no need for it. Are we going to coordinate the signals? Are we going to work with the schools? Are we going to do the Milagra onramp? Are we going to do the rest of the things that we could have and should have done? And then we wouldn't have had this huge impact.

You know, it's the old FRAM filter story, people. You pay $5 for the FRAM filter; you're fine. You don't; it costs you $5,000 to fix your car.

So who do we have to blame for this fiasco? Only ourselves.

Thank you.

MS. GOODWIN: Tod.

Laurie Goldberg followed by Sabrina Brennan followed by Courtney Conlon.

MS. GOLDBERG: Wow. Tod, you really made sense tonight. That was really good. I like that.

I do not like this project. I do not want to see it happen. I think it is a waste of money, like a

lot of people said.

I don't like all these suit people. I'm not sure where all these suit people live. I doubt it's in Pacifica. And all this money for these people to be here and cookies and water, whatever.

I live in Vallemar. I -- it's amazing. I don't know where some of these people who are talking come from. Because when school is out during the summer, there is no traffic problem in the morning. And there's little traffic, probably, in the evening. A lot of it has to do with the schools.

The timing of the lights is awful. It's terrible. Why are we not talking about that?

We're wasting money on this being shoved down our throat. I don't know why Caltrans wants to do this. I'm sure the Chamber of Commerce has their own personal feeling about this. They probably want development so we can have more people in Pacifica.

Susan Vellone talked about businesses. Well, she's way in the back -- I think the Park -- in back of the Park Pacifica area. So if she had a business in Rockaway Beach, close by, where they had to move it, I'm sure she would not be supporting this. I'm sure she wouldn't be happy about it.

I really -- and I agree with the gentleman

talking about we haven't talked about carpooling. In 2030, how do we even know what kind of cars we're going to be driving? What kind of transportation are we going to be doing? We don't even know. We might be having cars that float in the air. I mean, how do we -- in 2030, we do not know what our transportation is going to be like.

So I think it's ridiculous to say that this is going to be the be-end, end-all for Pacifica. And I -- I really hope that -- like someone said, the City needs to get more involved, the City Council and -- like Tod was talking about, we have the lights, the schools.

Tod, I was proud of you. You really made sense tonight.

There's just a lot of issues that -- just a lot of issues that are not being talked about. They're trying to round this freeway through, and I don't want to see retaining walls or sound walls put up. How disgusting.

So that's all I have to say.

MS. GOODWIN: Thank you, Laurie.

Sabrina followed by Courtney, who will be followed by Aaron Reif.

Sabrina.

MS. BRENNAN: Hi. I'm Sabrina Brennan, and I live in Moss Beach. And I'm new to learning about this project, although I understand it's been dragging on for many years for you Pacificans.

So I have some questions tonight.

And I also want to mention that I am here as a representative of the Coastside Bicycle Coalition. And I'm going to hold up our new banner. We're going to be at the Half Moon Bay International Marathon tomorrow and also on Saturday. You are invited to join the bicycle coalition. You can find us on Facebook.

And I'd like to start by addressing the woman who works for Recology. And I believe she mentioned she's the president of the Chamber currently. I have a suggestion for her. I understand she has a hard time getting to work in the morning, and I suggest that she ride a bicycle.

Right now in Pacifica there is a need for improved bicycle trails. And it doesn't look like this plan really addresses those issues, and I'm concerned about that.

I asked one of the presenters, before the meeting started, if there are any plans for a striped bike line in this megafreeway project. And I learned that actually there is no plans whatsoever for a bike

lane. I find that a little bit hard to believe, but apparently that's the case.

So that's an area where I think there could be improvement. And I think that that can happen with or without this project. Hopefully without.

So I'm going to start with my questions. So I'm curious about the origin of this project. I don't expect anybody to answer these questions right now. I'm just going to ask them. So I'm wondering where the City Council stands on the project.

Next question: Have the planners considered a trail project as an alternative to highway widening? It seems to me that a trail project would help alleviate some of the traffic congestion, and it should be looked at as an alternative to the project.

I noticed in some of the documents in the EIR -- in the draft EIR that a roundabout was included -- or two roundabouts were included and some options. Frontage road was an option. Various other things that were not even talked about tonight. Maybe those were talked about at previous meetings. But I would be interested in learning more about that.

Why isn't the bike lane included? That's the question.

What about ride-sharing as an alternative?

Where are the plans for ride-sharing?

And what about the plans for providing safe crossings for bicycles and pediatricians? I understand right now there is no plan for an overcrossing or an undercrossing.

Thank you.

MS. GOODWIN: Thank you, Sabrina. It looks like your questions have all gotten in there.

And I would just remind folks that we're here to comment on a document, not on each other. So it's more productive if you can focus on the document. The last couple of speakers have focused on the other speakers. And, really, this is all going to end up in print, so I would just remind you of that.

Courtney, followed by Aaron.

MS. CONLON: Good evening. My name is Courtney Conlon. I'm the CEO of the Pacifica Chamber of Commerce.

And I would just like to say that we definitely support well-thought-out plans that give a vision and a relevancy to Pacifica.

I have lived here myself 33 years. I live in the middle -- the back of the Valley, between Linda Mar and Park Pacifica. And I have been caught in traffic, just like all of us, coming from the south end of town.

All the way through -- once I get through, probably, Fairway Park. And if I had gotten to work 15 minutes earlier, yes, that would have been probably a good thing.

But traffic from 7:30 until 9:00 o'clock every morning, guaranteed -- when school is in, you can be guaranteed that you're going to be lagging and behind schedule. And when I look right at the car next to me -- talk about this being -- okay. We talked it being an economic issue. Yes, we do believe -- the Chamber of Commerce, we do believe this is definitely an economic issue. We also believe it's a safety issue. We also definitely believe it's an environmental issue. Cars that are sitting, idling. The emissions that they release into the ozone. Come on, folks. This is where we really have to understand what is going on.

And then let's talk about a health issue. I worked at Seton Medical Center for nine years, and the people that would come in from stress-related activities. Road rage is one of them. And the road rage that people experience when they are late, when their kids are late for school, when they're late for appointments, when they know that they're missing out on something that they -- yes, they should have left

maybe a half hour earlier, but things happen in the morning sometimes that you just can't get out.

And I just want to say that I did write a letter in my column this morning, too, in the *Pacifica Tribune* -- and I'm just going to read you some excerpts -- that on behalf of the Pacifica Chamber of Commerce board of directors and myself, that "the widening of Highway 1" in finding a long-term solution is -- "between Rockaway and Vallemar" is about time. It is something that is needed.

Those of us that have vision for Pacifica -- the tunnel will be coming in the next year or so. After that, the walking trail. The amount of people that will be coming to Pacifica during the summer, when school is out -- think about it, folks. We're going to be impacted.

So let's take advantage of an opportunity of funds that have been put aside for this highway widening.

Thank you.

MS. GOODWIN: Aaron followed by Connie followed by Gil Anda.

Aaron?

MR. REIF: Hi. I'm Aaron Reif. I live -- right here on the top is where I live. This hits me

close to home. And we talk about road rage, I live that far away.

MS. GOODWIN: Now, Aaron, this is being taped. So could you help us with some sort of designation of what that neighborhood is, for our --

MR. REIF: Sure. I live in Rockaway. I'm about --

MS. GOODWIN: Thank you.

MR. REIF: -- one block away. I'm about one block away from the highway here.

All right. So, look, I'm the problem. The reason you can't get across the highway is because I'm a pedestrian, and I'm trying to get across that street like five times a day. I'm running, riding my bicycle. You know, things that everyone should be doing, but they're not. And I know because I'm out there.

The reason your kids can't ride to school is because this road right here is super-dangerous, this path for them to take. So you can't cross them across the street.

I feel like, you know, who are the people in charge? You don't even know my town or my neighborhood. Do you live anywhere near here? I cross the street all the time.

This is a monstrosity. It does not belong

near my house. I have been here for 20 years. I went to high school here. I am going to die in this house in 50 years. This road is still going to be the same, I promise you.

MS. GOODWIN: Thank you, Aaron.

Connie. Connie Kelley followed by Gil Anda followed by Dana Martise. Martise (pronunciation).

Hi, Connie.

MS. KELLEY: Just so everybody knows, I really resented being called the gang of no. I really resent that. And I don't think we're a minority, either.

I live in Rockaway Beach. I have a few things to say.

How do you think six lanes will make it easier for fire and emergency vehicles? Because you'll just have more cars in the way.

What happened to the frontage road?

I have lived in various places, virtually all over United States in my life. I have been in Pacifica for 23 years. And I really don't see the need for this.

I drive and I take that every day. And you know what? It doesn't seem to matter whether I -- what time I leave. I still get to work at the same time.

And it's always within the same time period. But it makes a difference, my attitude, when I'm sitting in traffic. And I can wait that five minutes.

But I don't understand why they don't have a frontage road that local traffic, parents, could use to get up to Vallemar and up to -- around the Sharp Park area. So, when it's bad, the people who had -- all those people that they figure to come through the tunnel just because there's now a tunnel -- I don't know how we're going to get all that much more traffic.

I -- I just don't understand this. And I don't -- Chamber of Commerce we don't vote for. We didn't vote for this project. We do vote for the people that vote for other people, and I will remember this.

The speeds -- at least I -- you know, I ended up with a truck in my yard, 15 feet from my bedroom. You know, and they don't even monitor the vehicles that are out there now. They have -- a lot of trucks come roaring down Fassler that are not supposed to be there. Tractor-trailer, overloaded dump trucks, which end up next to me in bed almost. I mean, I really don't appreciate that.

The tunnel will not cause an increase in cars. I go up and down the coast. I have Moss Beach,

everywhere, all along the coast.

So, anyway, firefighters will do better with a frontage access that can be designated emergency road when needed.

You know what? I don't want any of my friends to stay at any of those hotels if they start doing construction. And I don't think anybody would want to stay any of those hotels. Let alone, who wants to go to a business when you got construction dust floating all over you?

I'm sorry. No, no, no. I am in the gang of no.

MS. GOODWIN: Connie.

Gil Anda followed by Gil -- I'm sorry. Gil Anda followed by Dana followed by Mary Keitelman.

MR. ANDA: Good evening. I'm Gil Anda, and my family owns a lot that is going to be acquired in the event that the highway is widened. And it has been encumbered since 1978. And, as far as I'm concerned, that means that way back then, the necessity was, you know, noticed, that we needed that property for the highway widening.

And one unique thing about this highway that differentiates it from -- you know, like over 101: This section of highway doesn't have any alternative

frontage roads to go in case it gets blocked.

And I can remember two incidences, where a friend of mine was three hours late coming to dinner because there was an accident. And then also this one time I was like halfway down Sharp Park Road and traffic was completely stopped, and I heard a siren. And it was an ambulance. And it was coming right down the middle of traffic. Everybody kind of had to move zipperlike, you know, out of the way.

So I don't doubt the necessity of fixing the situation.

One other thing I would like to point out is that among the arguments used against it was generated traffic, induced traffic. This comes from a couple of studies. I believe it's Sightline Institute and Victoria Institute.

Yes, by all means, I think that this should be examined when we do an EIR. But it should be applied evenly across the board to our alternatives like, you know, synchronized traffic lights. I don't know if they're being applied right now or not.

But, in other words, what induced traffic is is it asks the question, is this highway going to become obsolete anytime soon. And so -- you know, we should ask that question in an EIR. We should ask it

of all the alternatives. And, as far as I'm concerned, this is becoming obsolete as it is, and it will definitely become even more -- ever more obsolete because we -- you know, as somebody pointed out, it's not just Pacifica traffic. It's traffic from north and south of Pacifica.

And one last thing. Someone mentioned, you know, why are we wasting money on this -- okay. Let me go quickly. Earlier today Barack Obama stood by this bridge. It's a capital project. It's something that will be used to help bring this country out of a recession. And this is a capital project. And I stand with Barack Obama with that.

Thank you.

MS. GOODWIN: Gil.

Dana followed by Mary Keitelman followed by John Curtis.

MS. MARTISE: I am opposed to the widening of Highway 1. Building more roadway does not solve traffic problems.

I lived in Atlanta from 1968 to '78 and then again from '87 to '95. When I lived there the first time, Atlanta had beautiful neighborhoods because it made a concerted effort to conserve its trees and keep as much greenery as possible. When I moved back,

Atlanta was well on its way to becoming the L.A. of the East. It could not chop down its trees fast enough to make room for more housing and more roads.

In particular, Georgia 400 was built. Since Atlanta was expanding so rapidly, Georgia 400 was going to alleviate the congestion coming from people living in popular northern suburbs. The road was built through some of the loveliest neighborhoods in Atlanta. The congestion was not alleviated. More people moved into the northern suburbs, and the road continued to be jam-packed with cars.

Road widening does not solve traffic problems. In the short term, it creates more traffic as the widening takes place. Once completed it invites more cars onto the road, so you wind up where you started. Road widening is regressive. We need a progressive plan to move more efficiently into the future.

The original widening of Highway 1 bisected the town of Pacifica, helping to turn Palmetto Avenue into a ghost street and making Pacifica just a means to get somewhere else. Half Moon Bay has been able to maintain its image as a charming destination spot, while Pacifica is the middle part of getting from Point A to Point B.

No more widening, please. Other solutions to congestion on Highway 1 should be considered.

Thank you.

MS. GOODWIN: Mary Keitelman followed by John Curtis followed by Kathryn Slater.

Mary.

MS. KEITELMAN: Hi. Let's see. I request that a more serious look at the citizen requests for alternatives be addressed. So I would like for a cost/benefit analysis of these following items -- which I'm going to list some of them; there is others -- be done by an outside consultant firm that is a recognized professional in these types of studies.

And those types of things that we don't really hear here are added bus service around the commute hours. I actually commute to Oyster Point every day, 13 miles. I'd love to use public transit, and I don't because there's not enough options around the time. Basically, there is one time and that's it. You miss it and it's another hour. I would like to see that same service.

I would like a cost study/benefit analysis for seniors and children as well. Our community is aging. Baby boomers want a place that is livable. I would like to see small covered bus stop shelters, with

little benches, to make the bus commute easier and more comfortable and ordinary to use instead of an inconvenience, standing in the rain.

I'd like to see school scheduling. I live in the back of the Valley, and the commute is -- there isn't a problem when the schools are out. So just to echo what others have said.

I would like to see some competent traffic light timing performed. We live close to Silicon Valley. I'm sure there's enough talent nearby to find that.

I would like to see that turn signal rule for commute hours addressed.

I like the idea mentioned earlier about an underground area for bikers and walkers. I would like to see bike paths throughout. As we age, we are not going to be in our cars. Especially when we get really old. We're still going to want to get out to our doctors, our lawyers, our friends, our library, the parks, out -- I would like to make one final comment. I'm not having enough time to do everything. I'll send it -- formal communication in writing.

This -- if we have enough -- more bus service, that will be long-term jobs for the community, which will add to the quality of life. Anybody who

drives a bus, it's a decent job. And it's somebody who is going to live nearby.

That same goes for all those bus shelters. Those are construction and maintenance jobs. Those add to the health of the community. What -- people are saying six lanes, but it's more like twelve.

MS. GOODWIN: Thank you, Mary.

John. John will be followed by Kathryn Slater, who would be followed by Dinah or Dinah (pronunciation) Verby. Dinah. Dinah Verby.

John.

MR. CURTIS: Hi. Thank you.

First of all, I'm insulted by Caltrans presenting us with a plan that is really only a variation. One is what color of park benches do we really want versus the other, the whole landscaping issue. Essentially, what they're doing is presenting you with two freeway plans and saying, If you don't take this, then you get nothing and it's going to be your fault. It's that easy out.

It's that same arrogance that compelled Caltrans, during the Devil's Slide cascades, and led the public to have to take Measure T to the vote. And, by the way, Pacifica did vote for the tunnel. It took decades to stop Caltrans on 380 in this town and get it

unadopted. There is a long litany of abuses.

I would like to correct something that I think a lot of people aren't clear about. The council -- City Council is very limited at this point -- and the Planning Commission -- about what they can do and say as an official body, because they are not the lead agency. The EIR has not been certified. There will come a time, but it's not right now -- I don't believe so -- in normal process.

The thing that -- a couple of things that bother me here is, you'll notice that they're bridging -- by the way, we fought the 380 because we didn't want to be just an off ramp to Half Moon Bay, you know, just to breeze on through, which was basically what happened with the northern portion of town and the freeway that killed Sharp Park.

This is going to severely hurt businesses of Rockaway Beach, making it very difficult for anyone to turn in that want to manipulate their way in there. I can't understand why the Chamber is slitting the throat of some of their members. For what reason? I don't get it.

You notice that the plan bridges a portion of the wetland and then puts these massive retaining walls along the west side of the road.

Now, when this all first started, I had talked to Joe Hurley years ago about an alternative that I thought would work.

The real problem here, by the way, is not Fassler. It's Reina del Mar. And anyone who's a commuter knows that you can't pulse enough people through the intersection. That's why people are trying to get down Fassler and -- okay.

So, my point is, there are alternatives.

I tried to get the Calera Creek daylighted as part of this project, because that's the way God created it, to restore habitat. They said, for a while, this was not happening. After a while, they said, Well, there's no habitat now.

Yet Fish and Wildlife met with the City of Pacifica. I was there. Several people, council members and other people in the audience, were there. And they determined there is significant habitat over there and made the police station put that habitat in.

So what's being done here is things are being manipulated.

MS. GOODWIN: Thank you, John.

Kathryn followed by Dinah Verby followed by William Leo Leon.

Kathryn.

MS. SLATER CARTER: All right. My name is Kathryn Slater Carter, and I want to thank everyone for attending this public hearing and having the public hearing. I've been to previous hearings on this. I will note that I was not notified of this hearing except by Mary Keitelman, who sent me an e-mail.

I have commuted this route since I moved to Montara in 1978, working in Daly City. I own an office building in the north end of Pacific Manor.

I think there is a bunch of red herrings about this being the only alternative for safety. And I agree with Mitch and many of the other speakers. I think that the alternative of bad or worse is asking for a third choice.

I think we need to make it scenic. I'm surprised that the Chamber of Commerce is talking -- is allowing sound walls and retaining walls. This is not scenic.

And I do know about visibility of businesses. And we businesses will die if people can't see it and can't access it adequately. It has enough problems as it is.

Why not engage the same consultants who have been working on the midcoast? And their recommendation has been to put in -- instead of stoplights, to put in

roundabouts all the way from Moss Beach through El Granada and possibly into Half Moon Bay, instead of stoplights. That keeps the traffic moving and allows people to -- to move along.

My experience, like others, is that the northbound morning congestion is the worst during school. Perhaps some special turn lane to get people into the school from the highway and then back out again would help.

But what I see the plans are is that you're going to have people racing to get from the three lanes into the two lanes so they can be fastest. This is simply going to be a wider parking lot.

I suggest also that folks here, including the City Council, write to the Coastal Commission and support limited growth for the San Mateo County Local Coastal Program update which is in process. It's supposed to be finishing right now. It will take the housing down from upwards of 200 houses a year down to 40 a year. This will help with the traffic problems too. Don't continue the original bad plan.

Thank you.

MS. GOODWIN: Thank you, Kathryn.

Dinah. Dinah Verby followed by William Leo Leon followed by Alice Whealey.

MS. VERBY: Hi, Dinah Verby. I live in Vallemar. I am admittedly coming into this process fairly late, I think, compared to a lot of you.

And I still have not completed my review of this draft EIR, but I do have a lot of concerns. One of them being for the businesses, for our local businesses. Because I was really troubled by the response I heard earlier about the impact of revenue loss on some of our local businesses who will be impacted by this project.

And the response was, they're going to have to wait until the project is over -- which I believe is going to be at least two years or longer -- before they can even submit a claim for potential lost revenues. Well, I don't believe most businesses will be able to survive for two years and wait and see if they might be compensated later on. And, if I were a business, I would really, really be seriously concerned about that.

Other issues I have are, again, with the process. I mean, I know there have been some public meetings. I'm also concerned that there does not appear to be a point in the process that I know of, before certification of the final EIR, where our city will weigh in as a city, as a -- an elective body, with comments. Whether they have technical jurisdiction,

whether they're the lead agency or not, I really think that our city representatives owe it to the public to conduct a public hearing.

And, for that reason, one of my main comments tonight is I would like to request that the public comment period for this project be extended. Not only because there are a lot of folks who really are still clueless and have no idea what's going on but because I really do believe that our elected city officials should be weighing in on this process. To say that this is the biggest project that is going to be hitting our city in decades and to say that there is -- there is nothing to be done until after this process is finished and the EIR is certified is extremely troubling to me.

I myself have not decided whether we need to widen the highway, but I am concerned that there are better alternatives.

I'm aware of a study, a conflicting traffic study, which shows traffic levels at B and C during morning and evening peak hours. And that's the Oddstad Assisted Living Center project. That says, to me, that there's a conflict in the data that is being relied on. There is a serious inaccuracy in the data that is being relied on to support the whole premise of this project.

That definitely needs to be studied further.

Thank you.

MS. GOODWIN: William Leo Leon followed by Alice followed by Pete Shoemaker.

MR. LEON: Hello. I'm Leo. I just want to say that I'm in favor of finding solutions both for traffic congestion in Pacifica but also for the entire coast.

And what that means is -- like most people, I worked my whole working life. But the last three years of my career I was fortunate to work in El Granada, living in Pacifica. So I kind of had the reverse commute, from Pacifica to El Granada.

But many times, because -- I was retired as a Postmaster. We would have meetings in San Francisco. And I would be coming up from El Granada through Pacifica, where I originated, born in San Francisco. And what I noticed was single-driver cars lined up all the way up Devil's Slide, coming into Pacifica during the commute time and then backing up from Fassler all the way down to Linda Mar Boulevard.

The reason I say that is because I really think we need to look at the traffic from a regional standpoint. We're trying to fix a regional problem with a local solution. We really need to have the

whole region participate in this solution. And we need to know the traffic contribution from the south and from Pacific separately and independently so that we can determine what kind of actions we need to take, intelligently, and what kind of initiatives to come up with. We can't just rely on a local traffic study. We have to expand our view and have a more realistic view of what the situation is.

As the earlier speaker alluded to, I'm aware of a peer review traffic study, much more current than what we're relying on here. A peer review -- so it has been looked at that has improved levels of traffic service. That tells me we need more current data. We need to expand.

Now, as far as the EIR, I think it's kind of in conflict with itself. I'm just going to read one portion of S.3.

Okay. S.3. "Improve peak-period travel times along" Highway 1, "at a reasonable cost, while avoiding or minimizing impacts." One of the problems with EIR is it doesn't give you the dimensions. Currently, the roadway is 66 feet. One alternative is 128 feet wide. The other is 144.

So, what I'm saying, basically, is how can we add cost to a project and increase the take of habitat

and business space and roadway frontage for the sake of a median? It just doesn't make sense. Why would we do that? All of Highway 1 is under consideration as a scenic highway. Do we need to be planting trees or shrubs?

MS. GOODWIN: Time's up. Thank you.

Alice. Pete Shoemaker followed by Steve Sinai.

Alice.

Pete, if you could get ready. We still have many speakers, and we're getting very close to our adjournment time. Thank you.

MS. WHEALEY: I live in Pedro Point. I was forced to take my child to Vallemar, first year I moved here, because Cabrillo was not open. I have also commuted along the road. So I know what I'm talking about.

The congestion on Highway 1 is caused mainly by the traffic lights from Linda Mar to Reina del Mar, not by the width of the road. This is shown by the fact that traffic moves along much better once the cars head north of Reina del Mar, even where the road is only four lanes. So adding lanes on either side is not going to solve your problem.

It's absurd to spend this much money and

cause this much environmental and social disruption to simply add a lane on either side. If you're going to spend that much money -- or possibly more -- and cause that much disruption, it should be a project that will actually relieve congestion. And that would require getting rid of some of the traffic lights.

If Caltrans refuses to get rid of the lights -- especially at Reina del Mar, if not some of the other intersections -- a school bus would be a much cheaper and better solution. As everyone has observed already, traffic is far better when school is not in session and parents are not competing with commuters to get along Highway 1.

Someone also brought up the issue of taking away this -- you know, the possibility or the -- being forced to -- parents having to take their kids all the way across the city, causing problems to commuters as well as themselves.

So, all of the alternatives. I heard frontage road. I don't know much about that. But definitely a school bus would be a far superior, cheaper alternative, if you're going to be cheap.

But, if you want to spend a lot of money, you need to do something about the lights. Adding lanes on either side is not going to relieve your congestion.

And, of course, as everyone has pointed out, it causes a lot of environmental and social disruption.

MS. GOODWIN: Thank you, Alice.

Pete Shoemaker followed by Steve Sinai followed by Julie Lancelle.

MR. SHOEMAKER: I think we have a problem we have to deal with. I think doing nothing is not an option. We can't stick our heads in the sand. We need a process that is sane, that is reasonable and lets people think that they're being well represented. I want to focus on that.

So just a question. The -- Caltrans is the agency that is responsible for issuing the EIR report, correct? Caltrans is the issuing agency of the EIR? Caltrans is also the certified agency of that same report, correct?

MS. GOODWIN: That's correct.

MR. SHOEMAKER: Does anybody else here see a conflict of interest? If I was in an election, would you have -- would you feel comfortable at that point with people in the election counting the votes? This violates any kind of reasonable sense of fair play, and it -- can you see, from our point, that we feel like our comments are just going to be like, you know, invalid or not viable?

And so the process itself, if it continues this way, is just going to raise the hairs on everybody's head. So it violates any sense of reasonableness that the same agency that certifies this thing -- and it feels very much like a ramrod. If you're going to do that to us, you're going to get really big, strong, organized opposition to it.

So nobody wants it. We've been through it too many times.

So I need to have you address this process to us. Common sense. Person to person. Sit down and have a beer with me. Because this is a fair process because -- and Pacifica (inaudible) Planning Commission and the city. And, yes, we do have a voice. And then we can probably work something out and sanity will prevail. Otherwise, we're going to have a pitched battle that you know how it's going to go. And Caltrans does not have a good record on pitched battles here.

Nobody wants it. And so talk to us -- person to person, adult to adult -- why this is a fair and reasonable process, and we'll get somewhere.

MS. GOODWIN: Steve followed by Julie followed by Glen Baker.

And I still have about eight speakers. If

there is anybody else, if you would please fill out your card now. Because we were scheduled to end it at 9:00. If I don't have too many more cards, I will go over and keep going with the three minutes. Probably -- right now we'll probably be adjourning at 9:10, if everyone is comfortable with that. But it -- we can't keep going all night. So, if you have a couple more speakers, please get them in now or just leave the card in writing with us this evening.

Okay. Thank you.

Steve.

MR. SINAI: Hello. I'm Steve. I'll go really fast.

I just want to say that I support this project. It doesn't necessary have to be a widening. Whatever works is fine.

But of all the alternatives I've been hearing -- I know that you can't have 80 buses going through with full -- you know, full carpools aren't going to work. Nobody works 9:00 to 5:00 anymore. Issues like that.

Building trails? We have enough trails. How is that going to reduce the traffic?

I -- personally, I live north of the problem. I will not go south during commute hours, which means I

won't purchase Denny's or I won't go buy two dozen doughnuts at the doughnut shop at Linda Mar for my coworkers.

You know, it's just been years and years and years since we've done anything to help businesses in this town. I have been -- there are a lot of the same people -- I think there are a lot -- I see the same people who were complaining just several years ago about how fast traffic was on Highway 1 now saying traffic is not a problem at all. I'm hearing people saying things like, There's no traffic going through -- coming through the tunnel, so we don't need this. Other people are saying, Oh, traffic is going to be jammed coming through the tunnel. You know, just the nonsense with all of this stuff.

Most people read the EIR, and a lot of their concerns are addressed in that. A lot of the alternatives that I'm hearing were already taken care of.

Again, we can't -- we need to do something to improve this town. We just laid off a bunch of city employees. You know, we can't just go bankrupt.

That's it. Thanks.

MS. GOODWIN: Steve, thank you.

Julie. Followed by Glen Baker followed by

Theresa Dyer.

MS. LANCELLE: Hi. Thanks very much.

I just wanted to just give a little history. Someone said something about how this project kind of was based on a project from 1988. But, actually, the project in 1988 was an extension of the freeway all the way through Rockaway Beach Avenue, with an off ramp and onramp to accommodate a big development there. So this is different than that project. Thank God.

And -- but, nonetheless, I want to -- I want to just say the following. You know, I -- I would like to see Caltrans and the Transportation Authority work with the local community and take some of this vast amount of money and spend it on facilitating a public process in Pacifica to engage and discuss the issue. This highway has always been a big issue for us, and I think we can figure it out. A lot of good ideas have come up tonight. But we do need to have a process. We always seem to be at the effect of decisions that are made for us with regard to this. And I really want to ask Caltrans and the Transportation Authority to engage us in something that may be new for them but I think would be very productive. There have been, in other communities, at other times, community dialogues, which are very inexpensive compared to the project price tag,

to address the issues that people are bringing up tonight.

Because we do actually have a safety problem on Highway 1, on that stretch between Fassler and Reina del Mar. I don't know how many of you were out and about when there was the flood suddenly on Highway 1. I know I was in the Linda Mar Valley that day, and every road going out of Linda Mar was stopped. There was no way to get out. The traffic was completely stopped on Highway 1. And all I had to do was think about whether this was really a disaster, you know, how screwed I would have been and everyone else who was out -- you know, on the roads that day.

So we do need to do something about the shoulders there. There needs to be a solution. You know, because the shoulders right now are so small that they can't accommodate emergency vehicles. So that's a real problem.

The school transportation solutions, we all -- people have commented on the difference during the summer. The schools make a difference. We need to really engage and collaborate with the whole community and the school community to develop these solutions that people have brought up tonight.

And this is a unique opportunity. It's not

an engineering problem. It's a human problem that we need to solve.

Thank you.

MS. GOODWIN: Thank you, Julie.

Glen Baker. Followed by Therese Dyer followed by David Cole. And if folks could be ready.

Did Glen leave? Do you know Glen? Is he gone?

VOICE: Gone.

MS. GOODWIN: Okay. Therese Dyer. Is she still here?

David Cole, Todd Bray or Brat.

VOICE: Brat [sic].

MS. GOODWIN: Brat. Thank you. I wish I had an overhead. I think I -- he kind of quit right in there, the last letter. Brat.

Okay. Therese, you're on.

MS. DYER: Okay. It seems like at these congregations we always get the same people. All the faces are familiar, you know. I guess all the nobies show up, and the yesbies either approve it or stay home.

But I'm one of the yesbies. And I don't usually agree with Julie Lancelle, but I do tonight. Whatever she said. Okay.

Now, for all of you that live in Vallemar, Rockaway Beach or wherever your home is located, I invite you to come up to 1408 Crespi Drive, where I live. And I'll give you cookies and coffee and see how long it takes you to get from my house back to wherever you're going. Because I'm glad I'm not a commuter, I'll tell you. It's terrible.

And right now we're being selfish for our own personal views, where we live or where we work or what's inconvenient for us or what is good for the frogs or the snakes. We don't take the whole community in challenge. And, you know, we're like a 30,000 population. So I don't know where the rest of them are. They couldn't fit in here anyway. But they do write letters to the editor and other things.

And I'm a "yes" on this. If -- there were a lot of comments tonight, positive. And I'm sure they're going to get back with you.

But I'm just wondering how much money -- it's cost-productive -- that we're spending on tonight and all the other nights that we show all the film and everything else.

These gentlemen are not donating their time. They're experts. And that's who we should be going to for answers. And if they don't have them, well, then

the cart -- the cart's before the horse. Because they should have asked the people before they drew up the plans.

MS. GOODWIN: Thank you, Therese.

David Cole followed by Todd Brat followed by Remi Tan.

VOICE: Dave Cole gave me his time.

MS. GOODWIN: Okay. Did David leave?

All right. Todd, you're on. Followed by Remi followed by Dan.

Okay. We're getting awfully close. We're starting to lose focus here, folks.

I have three more cards. Does anybody else want to speak? Please get the card in, and that will be the -- right now our last speaker is Dan Haggerty.

Okay. Todd, you're on.

MR. BRAY: Okay. It's Bray, B-r-a-y.

MS. GOODWIN: Oh, it is. Okay.

MR. BRAY: Sorry about that.

So the traffic guys are aware of RKH Associates. They're like -- they do traffic stuff. You guys are -- the Caltrans guys are familiar with that. I was talking with Mr. Hopper, the "H" of that company, because they've just completed studies in 2011. I noticed, through your presentations tonight,

your most current data is only 2007. So they've just done this thing in 2011, and it was Level of Service E. So I think that's something you should think about.

I would also like to ask you to continue the public comment period for an extra four weeks or so, to allow the City to find out exactly what it is in all of this process here. Because it's -- the EIR identifies it as a cosponsor, but there's no paperwork to back that up whatsoever. So I'm asking, along with a couple of other people, to continue the process, the comment process, for a month or so.

MS. GOODWIN: Thank you, Todd.

Remi followed by Dan.

Remi. Thank you.

MR. TAN: Yeah, I think Caltrans needs to look at these alternatives that they have dismissed a little more closely. It seems like there is a lot less costly solutions to widening the highway that may work.

And the first thing I can think of is adding more buses. And when I read that EIR, I couldn't believe they came up with something like 80 buses an hour, which is a bus every, you know, 20 seconds. I mean, just even consider that. It's a joke. But I think they need to actually consult with a transit engineer who understands public transportation.

Because it seems like, if you do six buses an hour, ten minutes between buses, or even 12 an hour, which is five minutes per bus, you could get a lot of commuters out of the cars. Because the bus is very convenient and a lot cheaper than driving, with gas at $4 an hour [sic], or parking down at whatever BART station. That is something to consider.

The other thing to look at is the school district. That school, Vallemar, down in Reina del Mar -- the school starts exactly at the peak of rush hour, where everybody is leaving, trying to get to work in San Francisco, predominantly, at 9:00 o'clock. So we need to work with the school district to try to shift the timing of the school start time out of that peak hour. And that is the only school that starts around 8:19 to 8:30. The other schools start at 9:00 o'clock, IBL and Cabrillo. So it's something we need to work with the community, with Vallemar school community and the district, to get that working.

And this doesn't cost any money. Either of those two solutions don't cost any money. Buses with enough ridership will pay for itself. Talking to the school district, nothing.

The other thing is, you know, you can look at timing the lights and getting it off this five-minute

light cycle. That stops traffic for a very long time. I've seen them slip light cycles one minute. As long as the traffic moves, the parents can get into the school -- you know, in and out pretty easily. So you ought to try that and look at synchronizing the traffic lights.

You go to San Francisco. You got -- down on Oak Street they're synchronizing. You can drive all the way -- halfway across town without stopping.

And these are cheap, easy solutions before having to widen the highway out to three lanes, which you know it's not going to work because past Reina del Mar it goes back to two and three and then two, down to one.

MS. GOODWIN: Thank you, Remi.

And the final speaker, unless I get another card in about a minute, is Dan Haggerty.

Dan?

MR. HAGGERTY: Good evening, everyone. Dan Haggerty from El Granada. I've lived there in El Granada for 22 years now and made the trip up and down this spot that we're talking about many times. Been stuck in traffic.

I -- I personally believe that there should be further studies on alternate traffic relief. I'm a

construction worker, and I certainly value a construction job, in fact, right now. But I think that there is quite another -- quite a large amount of other projects that could also be construction-related that can also relieve traffic on Highway 1.

One, for example, could be, you know, better bicycle connectivity, trails, to get more people off the road. And, you know, possibly a public transportation bus system that can load up bicycles, you know, and can ride there, load up and then get on and, you know, do the travel and get off. And you got a ride for the last mile, to wherever your destination is.

So I think that studies along those lines should be, you know, given more attention.

Thank you.

MS. GOODWIN: Thank you, Dan.

Okay. Seeing no other speakers, we stand adjourned.

But, before we leave, I'm wondering, Yolanda. There were a couple of questions about extending the comment period. What is the process for Caltrans to communicate that if the comment period is extended? How would people know or how would that decision get made?

You want to come up and address the group?

MS. RIVAS: Like the handout says that you got when you came in, the comment period is 60 days. That is already 15 days beyond the statutory requirements for the comment period.

And people are always welcome to provide comments. But to see the -- your comment actually published -- addressed and published in the document, it needs to be in by October 7th. But you're always welcome to submit comments, and you will get a response.

MS. GOODWIN: Okay. Thank you very much. You've been a terrific group tonight. I really appreciate your respectfulness with each other and with the process.

Good evening.

(Public meeting concluded at 9:04 p.m.)

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I, NOELIA ESPINOLA, do hereby certify:

That the foregoing public meeting was taken down by me in shorthand, and thereafter reduced to computerized transcription under my direction.

And I hereby certify the foregoing transcript is a full, true and correct transcript of my shorthand notes so taken.

I further certify that I am not interested in the outcome of this hearing.

Dated: October 10, 2011

NOELIA ESPINOLA, NO. 8060

# Appendix G

## List
## of
## Technical Studies

# List of Technical Studies

The following technical studies were prepared during the preparation of this EIR/EA for this project. These studies are available for review at the locations listed inside the front cover of this document.

G.1 Air Quality Report Highway 1/Calera Parkway Project Pacifica, California. November 3, 2009. Prepared by Illingworth & Rodkin, Inc. Addenda to this report completed in 2010 and 2011.

G.2 Archaeological Survey Report. October 2009. Prepared by Basin Research Associates. Addendum to this report completed in 2010.

G.3 Biological Assessment State Route 1/Calera Parkway Project. Caltrans District 04, City of Pacifica, San Mateo County. December 2010. Prepared by H.T. Harvey & Associates Ecological Consultants.

G.4 Historic Property Survey Report. October 2009. Prepared by Basin Research Associates. Addendum to this report completed in 2010.

G.5 Historic Resource Evaluation Report. August 2009. Prepared by Basin Research Associates. Addendum to this report completed in 2010.

G.6 Initial Site Assessment Highway 1/Calera Parkway Project, Pacifica, California. June 2009. Prepared by Cornerstone Earth Group. Addendum to this report completed in 2010.

G.7 Natural Environmental Study State Route 1/Calera Parkway Project. Caltrans District 04, City of Pacifica. San Mateo County. December 2009. Prepared by H.T. Harvey & Associates Ecological Consultants. Addenda to this report completed in 2010 and 2011.

G.8 Preliminary Delineation of Wetlands and Other Waters/Delineation of Coastal Zone Wetlands within California Coastal Commission Jurisdiction State Route 1/Calera Parkway Project Improvement Pacifica, San Mateo County, California. August 2009. Prepared by H.T. Harvey & Associates Ecological Consultants.

G.9 Preliminary Geotechnical Report Highway 1/Calera Parkway Project 04-SM-1, PM 41.7/43.0 San Mateo County, California. September 2009. Prepared by Parikh Consultants, Inc.

G.10 Location Hydraulic Study Highway 1/Calera Parkway Project San Mateo County, California. June 2009. Prepared by WRECO.

G.11 Noise Study Report Highway 1/Calera Parkway Project. October 25, 2009. Prepared by Illingworth & Rodkin, Inc. Addenda to this report completed in 2010 and 2011.

G.12 Storm Water Data Report Highway 1/Calera Parkway Project San Mateo County, California.

2009. Prepared by WRECO.

G.13 Traffic Operations Report State Route 1/Calera Parkway Project. December 2008. Addenda to this report completed in April 2011. Prepared by Fehr & Peers.

G.14 Visual Impact Assessment Construct Improvements and Widen a Segment of State Route 1 (SR-1)/Calera Parkway/Highway 1 from North of Reina Del Mar Avenue to South of Fassler Avenue in the City of Pacifica. January 2011. Addenda to this report completed in August 2012. Prepared by David J. Powers & Associates.

G.15 Water Quality Report Highway 1/Calera Parkway Project San Mateo County, California. 2009. Prepared by WRECO.

G.16 Paleontological Identification Report for the Widening of Highway 1. August 2012. Prepared by Caltrans.

G.17 Additional Transit Analysis for the SR 1/Calera Parkway Project Pacifica, California. December 2009. Prepared by Fehr & Peers.

G.18. Additional Transit Analysis for the SR 1/Calera Parkway Project Pacifica, California. June 2010. Prepared by Fehr & Peers.

G.19 Supplemental Traffic Analysis of Calera Parkway in Pacifica, CA. December 2008. Prepared by Fehr & Peers.

G.20 Caltrans. Project Development Procedure Manual (PDPM). Available at: http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm#pdpm

G.22. Caltrans. Standard Environmental Reference (SER). Available at: http://www.dot.ca.gov/ser/

# Appendix H

## Programmatic Section 4(f)
## Net Benefit

04-SM-1
PM 41.7/43.0
EA 04-254600
Project ID: 0400000715

# State Route 1/Calera Parkway/ Highway 1 Widening Project (from South of Fassler Avenue to North of Reina Del Mar Avenue in the City of Pacifica)

## San Mateo County, California

# PROGRAMMATIC SECTION 4(F) NET BENEFIT

**Submitted Pursuant to:**
**49 U.S.C. 303**

**THE STATE OF CALIFORNIA**
**Department of Transportation**

9/18/12
Date of Approval

Jo Ann Cullom
Jo Ann Cullom
Environmental Analysis
Caltrans District 4

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 USC 327.

**September 2012**

## INTRODUCTION

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S.C. 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- there is no prudent and feasible alternative to using that land; and
- the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

## DESCRIPTION OF THE PROPOSED PROJECT AND ALTERNATIVES

The California Department of Transportation ("Department" or "Caltrans"), in conjunction with the San Mateo County Transportation Authority (SMCTA) and the City of Pacifica, proposes to widen Highway 1/State Route 1/Calera Parkway (SR 1) in the City of Pacifica from four lanes to six lanes through the project limits. The portion of SR 1 proposed for widening is located between 400 feet and 3,200 feet east of the Pacific Ocean within the City of Pacifica and extends from approximately 1,500 feet south of Fassler Avenue to approximately 2,300 feet north of Reina Del Mar Avenue, a distance of approximately 1.3 miles. A regional map of the project area is shown on Figure 1 and a vicinity map and aerial photograph showing the site and surrounding land uses is shown on Figure 2.

There is an existing two-way Class I bicycle/pedestrian path that extends parallel along the west side of SR 1 from Mori Point Road[1] south to Reina Del Mar Avenue where it leaves the highway alignment and turns westerly to meet the Class I bicycle path which follows Calera Creek through the former quarry property down to the Pacific Ocean and connects with the Rockaway Beach neighborhood.

As part of the highway widening, the existing Class I bicycle/pedestrian path adjacent to SR 1, north of Reina Del Mar Avenue, would be constructed along the western edge of the widened highway. The path would be upgraded by widening it from eight feet to 10 feet, by increasing the separation between edge of path and edge of traveled way from nine feet to 16 feet, and by installing a fence to provide a physical separation between the bicycle path and the highway. The improvements to the existing Class I two-way bicycle/pedestrian path will not change the class of the path or extend beyond Reina Del Mar Avenue. The Class I bicycle path which follows Calera Creek through the former quarry property down to the Pacific Ocean and connects with the Rockaway Beach neighborhood would not be altered or affected by the proposed roadway widening.

The purpose of the proposed project is to improve traffic operations by decreasing traffic congestion and improving peak-period travel times along a congested segment of SR 1 within the city of Pacifica. Please refer to *Chapter 1, Section 1.2, Purpose and Need for the Proposed Project*, for additional information.

[1] There is a bike path that extends north from Mori Point Road to Clarendon Road.

**Build Alternatives**

The two Build Alternatives are the "Narrow Median Build Alternative" and the "Landscaped Median Build Alternative." Either of these Build Alternatives would widen this segment of SR 1 from four lanes to six lanes (three lanes in each travel direction) and would include three 12-foot-wide through-lanes in each direction, with standard 10-foot outside shoulders. Please refer to *Chapter 1, Section 1.3 and Section 1.4,* for additional information.

The main difference between the two Build Alternatives is the design of the proposed median in the SR 1 roadway between San Marlo Way and Reina Del Mar Avenue. The existing roadway segment has a six-foot wide median with a three-foot-high concrete barrier dividing the northbound and southbound lanes. Under the Narrow Median Build Alternative the existing roadway median would be widened from six (6) feet to 22 feet throughout the project limits and would include a single three-foot high concrete barrier to separate northbound and southbound lanes as well as ten-foot wide inside shoulders on both the northbound and southbound sides of the highway. Under the Landscaped Median Build Alternative, the median would be widened an additional thirty (30) feet between San Marlo Way and Reina Del Mar Avenue to provide space for a landscaped median. The landscaped median cross section would consist of sixteen (16) feet of landscaping between two three-foot high concrete barriers and a ten-foot wide inside shoulder on both the northbound and southbound sides of the highway. The proposed widening Build Alternatives are shown on Figure 3 and Figure 4.

**No Build Alternative**

The No Build Alternative would consist of not constructing the project, which would avoid all of the environmental impacts of the project, as described further in Chapter 1. Under the No Build Alternative, it is assumed that all other planned and programmed improvements would be constructed and in place.

**No Use of 4(f) Property Alternative**

There is no alternative that avoids the 4(f) property.

**Alternate Location Alternative**

The Alternate Location Alternative would include constructing the roadway widening at a new location without a use of the Section 4(f) property.

## DESCRIPTION OF SECTION 4(F) PROPERTY

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 USC 327. The evaluation of potential Section 4(f) resources with and adjacent to the State Route 1/Calera Parkway/Highway 1 Widening project includes the existing two-way Class I bicycle/pedestrian path west of the existing highway that extends from Mori Point Road to near Reina Del Mar Avenue.

**Bicycle/Pedestrian Path**

An existing eight-foot wide Class I bicycle/pedestrian path extends parallel along the west side of SR 1 from Mori Point Road south to Reina Del Mar Avenue (refer to Figure 2). This path provides bicycle and pedestrian access to the City bike path north of Mori Point Road, and the path which follows Calera Creek through the former quarry property down to the Pacific Ocean and connects with the Rockaway Beach neighborhood. There is a nine-foot pavement separation from traffic on the westbound side of SR 1. There is currently no physical barrier separating the existing path from traffic.

According to the Pacific Bicycle Plan, the intersection of SR 1 and Reina Del Mar Avenue is the southern terminus of the officially-designated two-way Class I bike path. The unofficial bikeway divides at the intersection of SR 1 and Reina Del Mar, with northbound traffic on the east side of the Highway and southbound traffic on the west.

## IMPACTS ON SECTION 4(F) PROPERTY

Construction of the roadway widening is expected to take approximately two years. The proposed construction will be done in three stages; the roadway widening on the west side adjacent to the path and the path upgrades will be completed in Stage 1, which will minimize the path closure time to less than two years. Construction of the path upgrades and the roadway widening will affect an approximately 0.3 mile segment of the path immediately adjacent to the west side of SR 1. No other trail segments will be affected. The temporary path closure will not affect any public vehicular traffic.

Construction of the project will be temporary in nature and will not result in any permanent adverse physical impacts to the path. The path upgrades will not permanently interfere with the activities or purpose of the resource due to the establishment of a temporary on-street detour which will be maintained during construction periods.

After project construction, the path will be fully restored at its existing location. The project will include improvements to the path by widening, proving additional pavement separation, and a physical barrier between the path and the SR 1 traffic. These upgrades will improve the safety for path users and will improve the overall path conditions in the area.

## APPLICABILITY OF PROGRAMMATIC SECTION 4(F)

This programmatic evaluation satisfies the requirements of Section 4(f) for projects because it meets the following applicability criteria:

1. The proposed transportation project uses a Class I bicycle/pedestrian path, which is a Section 4(f) recreation area.

2. The proposed project includes all appropriate measures to minimize harm to the Class I bicycle/pedestrian path, as further described below, and will fully restore the path at its existing location and includes improvements to the path, which will preserve and enhance

those features and values of the property that originally qualified the property for Section 4(f) protection.

3. The agency official with jurisdiction over the Section 4(f) property, the City of Pacifica, which agrees in writing with the assessment of the impacts; the proposed measures to minimize harm; and the mitigation necessary to preserve, rehabilitate and enhance those features and values of the Section 4(f) property; and that such measures will result in a net benefit to the Section 4(f) property. Refer to the attached letter from the City of Pacifica.

4. The Administration has determined that the project facts match those set forth in the Applicability, Alternatives, Findings, Mitigation and Measures to Minimize Harm, Coordination, and Public Involvement sections of this programmatic evaluation.

## AVOIDANCE ALTERNATIVES AND OTHER FINDINGS

The No Build Alternative would not improve traffic operations, decrease traffic congestion and delay, or improve peak-period travel times along this segment of SR 1. Under the No Build Alternative, projected increases in traffic would cause congestion to worsen and the existing problems would be exacerbated. The No Build Alternative is not feasible and prudent because it would neither address nor correct the transportation need cited as the NEPA purpose and need, which necessitated the proposed project

It is not feasible and prudent to avoid Section 4(f) property by using engineering design or transportation system management techniques, such as minor location shifts or changes in engineering design standards because there would be additional environmental impacts on the east side of the highway, including community impacts to adjacent businesses. The identified transportation need cited as the NEPA purpose and need would not be met under this alternative and there would also be a missed opportunity to benefit a Section 4(f) property.

It is not feasible and prudent to avoid Section 4(f) property by constructing at a new location because the new location would not address or correct the problems cited as the NEPA purpose and need, which necessitated the proposed project.

## MEASURES TO MINIMIZE HARM TO THE SECTION 4(F) PROPERTY

During each construction stage of the project, pedestrian and bicycle access will be maintained. An approximately 0.3 mile temporary detour will be established along SR 1 for bicyclists and pedestrians. The detour will begin at Mori Point Road, near the northern limits of the project area, where bicyclists and pedestrians will be shifted to the east, while the west side improvements are being completed. Signs will be placed to direct path users along the detour route. During the remaining two stages of the project construction, the newly constructed path will be open for use. Impacts to bicyclists and pedestrians will also be minimized by performing the majority of the work behind temporary concrete barriers, scheduling temporary lane closures during non-peak commute periods, and closely coordinating with the City of Pacifica.

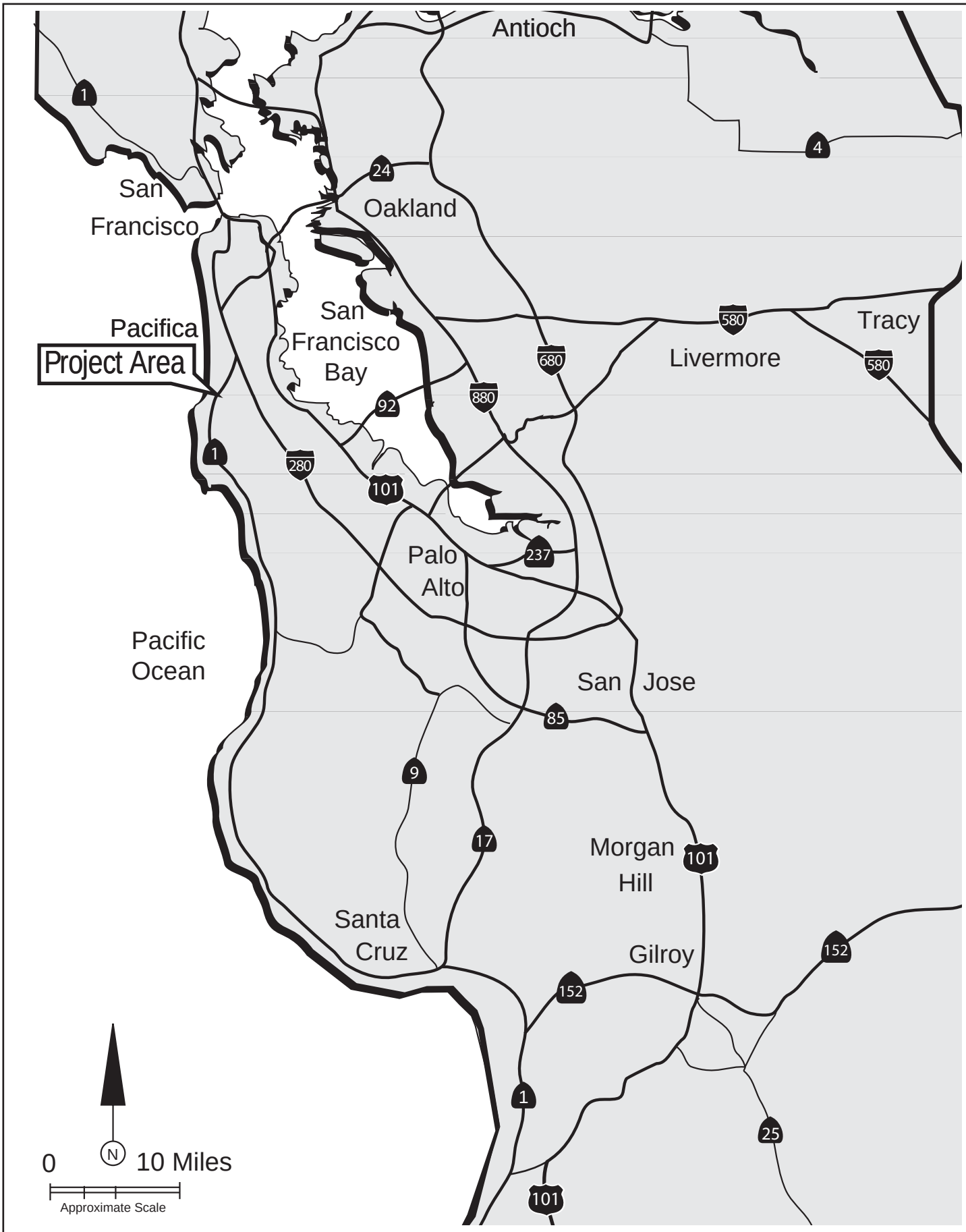
## COORDINATION

The City of Pacifica, Parks, Beaches and Recreation Department has jurisdiction over the path that will be affected by the construction of the roadway widening. Caltrans was consulted (see attached

letter dated September 18, 2012) by the City of Pacifica, Parks, Beaches and Recreation Department regarding the improvements the path. The City Parks, Beaches and Recreation Department determined that no permanent or major temporary impacts to the path would occur, nor would the recreational use of the path be significantly disrupted during or after construction.

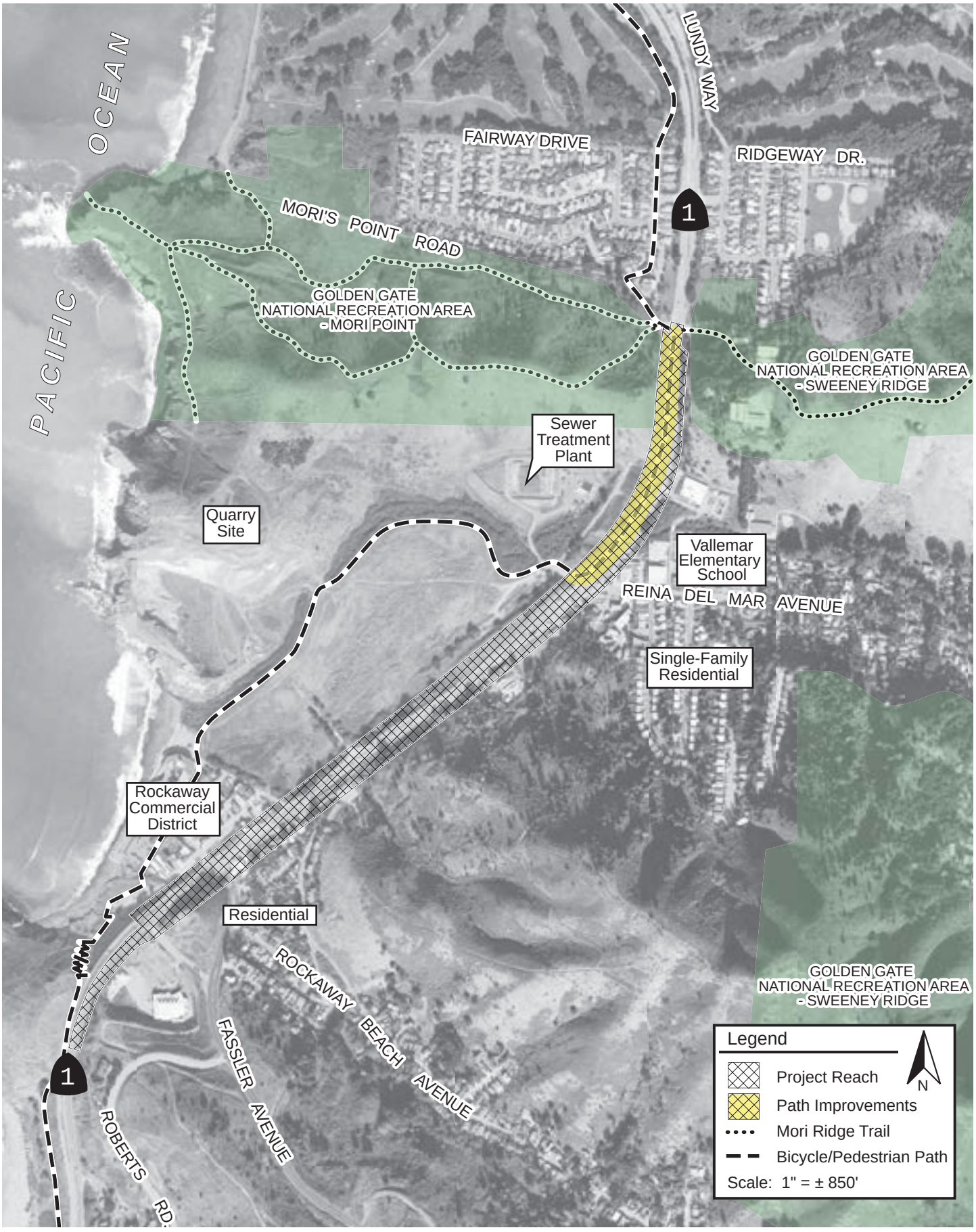
## CONCLUSION

The closure of the two-way Class I bicycle/pedestrian path that extends parallel along the west side of SR 1 from Mori Point Road south to Reina Del Mar Avenue, will be both temporary and minor. The project will not substantially interfere with existing activities along the path. The prominent visual features of the path are Mori Point and the beach, which will remain accessible to pedestrians and bicyclists during the path closure. No public vehicular traffic will be affected by the temporary trail closure. The land being used for construction purposes will be fully restored after project completion. There is a documented agreement that the official having jurisdiction over this path has agreed to the findings. Based on these facts, the temporary closure and detour of the path, and the associated improvements will constitute a "net benefit" within the meaning of Section 4(f).



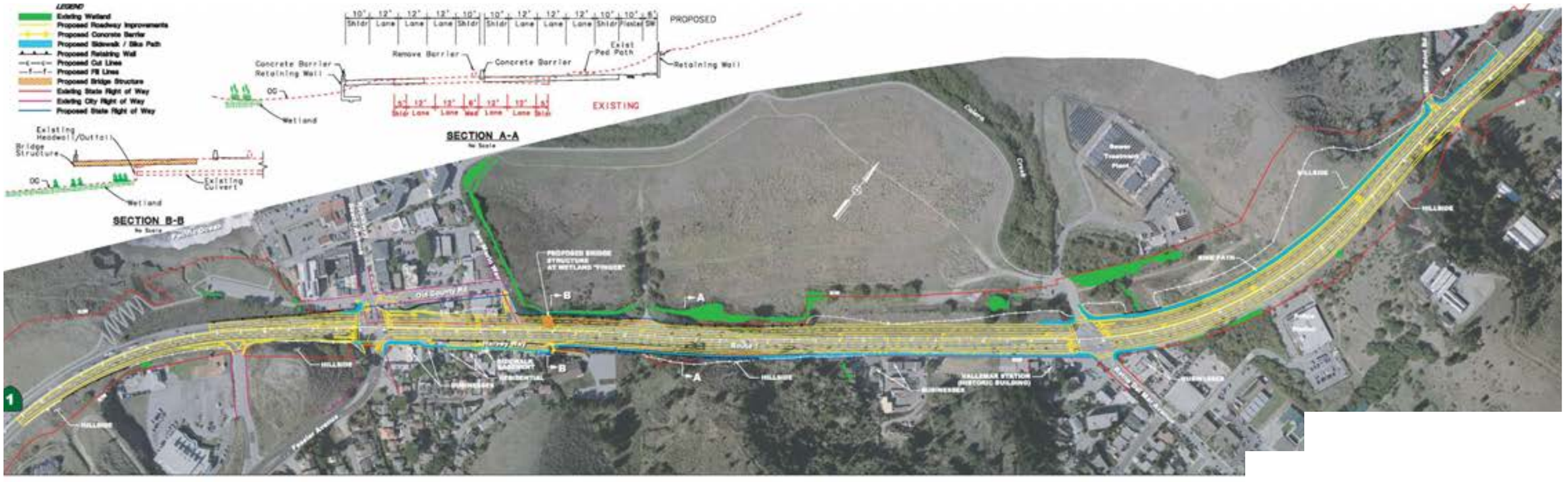

REGIONAL MAP

FIGURE 1



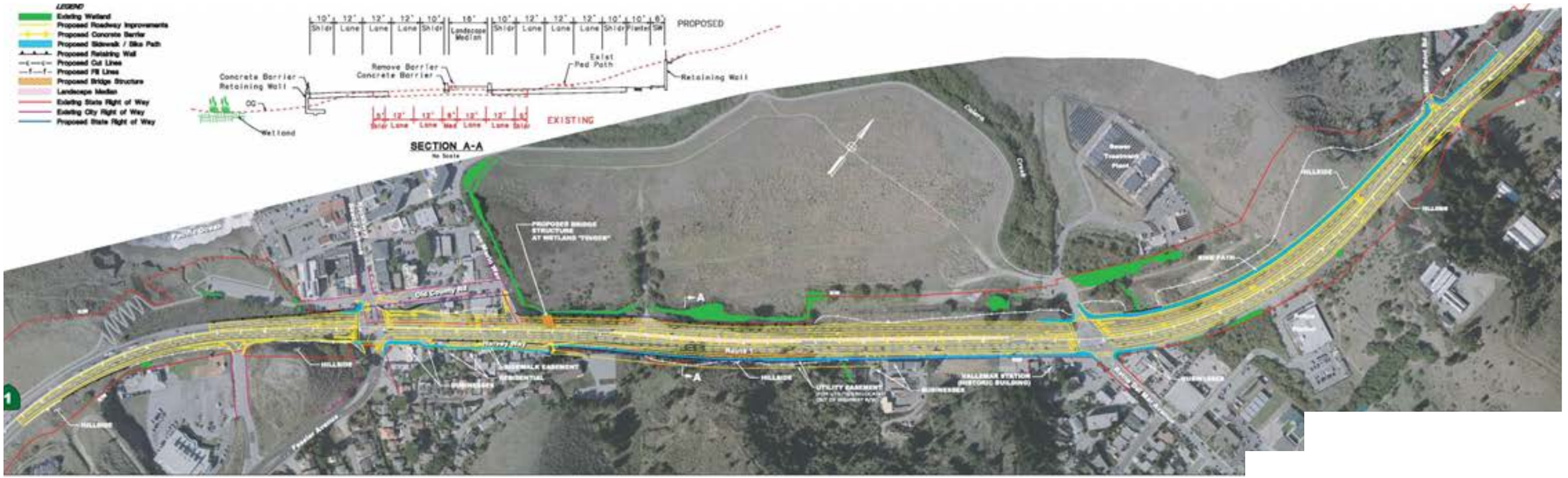

VICINITY MAP

FIGURE 2




CONCEPTUAL PLAN - NARROW MEDIAN BUILD ALTERNATIVE

FIGURE 3




CONCEPTUAL PLAN - LANDSCAPED MEDIAN BUILD ALTERNATIVE

FIGURE 4

CITY OF PACIFICA PARKS, BEACHES AND RECREATION DEPARTMENT

170 Santa Maria Avenue • Pacifica, California 94044 • (650) 738-7381 • FAX (650) 738-2165

September 17, 2012

JoAnn Cullom
District Branch Chief
Caltrans, District 4
P.O. Box 23660
Oakland, CA 94612

RE: Highway 1 Calera Parkway Widening Project –Bike Path

Dear Ms. Cullom,

We understand that Caltrans proposes to widen Highway 1 from four (4) lanes to six (6) lanes within the City of Pacifica. The project will use federal funding. There is an existing eight (8) foot wide bicycle/pedestrian path on the west side of Highway 1.

The bicycle/pedestrian path will be improved by the project in several ways. It will be widened from eight (8) feet to ten feet. It will be slightly realigned by moving it to the west. This will result in a wider separation between the path and the roadway. A fence will be constructed to permanently separate the path form the roadway. During construction, bicycle and pedestrian access will be maintained continuously by way of a temporary on-street detour.

Projects which use federal funds are subject to Section 4(f) of the Department of Transportation Act of 1966 when they involve parks and recreational resources. A bicycle/pedestrian path is considered a Section 4(f) resource.

In accordance with that regulation, there is a Net Benefit Programmatic Section 4(f) Evaluation, which can be used when the project results in an ultimate improvement to the Section 4(f) resource.

For the reasons mentioned above, we agree that the project will result in an improvement to the path. Therefore, we believe it is a "net benefit" to the bicycle/pedestrian path (Section 4[f] resource) and we are in agreement with the proposed improvements.

Sincerely,

Michael J. Perez
Director
City of Pacifica, Parks, Beaches and Recreation Department

# Appendix I

## Minimization and Mitigation Summary

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| **2.3 Relocations and Real Property Acquisition** | | | |
| If, after consideration of all public comments in light of project impacts, Caltrans approves either of the Build Alternatives, one residential property would be acquired at fair market value. Residents would receive relocation assistance in accordance with the provision of the Caltrans RAP. The type of relocation assistance provided would vary on a case-by-case basis, depending on such factors as whether the occupant is an owner or renter, how long the occupant has lived in the home, cost differential between existing and replacement housing, etc. | Page 67 | Caltrans | Pre-Construction |
| **2.7 Visual/Aesthetics** | | | |
| Nighttime construction lighting shall be directed downward, away from sensitive land uses, such as nearby residences. Nighttime lighting will also be directed away from the GGNRA's land surrounding the project site during construction. | Page 106 | Contractor | Construction |
| Aesthetic treatment will be considered for all structures associated with the proposed project, including retaining walls, soil nail walls, concrete barriers, median barriers, railings, and nose paving. Possible aesthetic treatment can include architectural features such as surface texture, pattern treatment, and color application. The aesthetic treatments on these structures will be designed to make the structure less visually obtrusive and blend in with the surrounding background. Such design can include a softer, more natural taper to the end treatment of the soil nail walls to blend the wall in with the existing topography. A color application can be applied to the wall that is similar to the existing hillside color, which will allow the wall to blend more into the existing hillside. The aesthetic treatments also will decrease the brightness and visual monotony of untreated retaining walls, prevent glare, and deter graffiti. The overall design objective of the project will be to maintain the consistency and visual continuity of the entire project corridor. | Page 106 | Contractor | Construction |
| In areas where feasible, the project design may include down slope retaining walls rather than upslope walls. The design would also minimize | Page 106 | Contractor | Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| overall height and length of retaining walls to the greatest extent feasible to reduce the visual level of impact. | | | |
| Including landscaping in the median for the project will provide aesthetic benefit. Median planting provides aesthetics in rural areas where no other highway planting exists. Median plantings provide glare screening for headlights of oncoming traffic, add visual interest through planting of greenery and flowers, and minimize the visual monotony of the expansive width of the roadway. Views from community roads play an important role in the City, and communities recognize that the perception of each community is formed to a large degree by what people observe through their windshields. The landscaping in the median will help to retain the views of the area for travelers. | | Contractor | Construction |
| Replacement planting shall be implemented per Chapter 29 (Highway Planting) of the Department's *Project Development Procedures Manual* and Chapter 900 (Landscape Architecture) of the Department's *Highway Design Manual*. The replacement plants will be complementary to the existing landscape and appropriate to existing conditions and level of maintenance to be provided. Native seed from a local source (within the same watershed if practicable) will be planted on all disturbed ground. | Page 106 | Contractor | Post-Construction |
| Temporary High Visibility Plastic Fencing will be placed along the perimeter of all environmentally sensitive area (ESAs) during construction and additional vegetation that need not be disturbed by construction including the mature trees at the south east quadrant of the Fassler Avenue/SR 1 intersection, as well as all of the vegetated area west of the retaining walls on the western side of SR 1 between San Marlo Way and Reina Del Mar Avenue. Both areas will be designated on the project plans as outside of limits of work and/or ESAs. | Page 106 | Contractor | Construction |
| Existing vegetation outside of clearing and grubbing limits will be protected from the contractor's operations, equipments and material storage. The project design and construction will minimize existing tree and shrub removal to the greatest extent possible. Any tree trimming/pruning to provide a clear work area will also be minimized to the | Page 106 | Contractor | Pre-Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| greatest extent possible. All trees in the construction footprint will be field marked and removal will be approved by the District Engineer prior to removal. | | | |
| **2.8 Cultural Resources** | | | |
| **ESA 1 (CA-SMa-162)**<br>Monitoring shall be undertaken within the Archaeological Monitoring Area (AMA) adjacent to the ESA boundary in association with a Native American Consultant to ensure that the ESA is not compromised during the removal of the engineered fill embankment placed during road construction in the 1960s to allow for future highway improvement to Highway 1. The AMA includes the recorded site boundary of CA-SMA-162 and a small buffer. | Page 113 | Agency | Construction |
| The ESA fence and AMA shall be professionally surveyed and marked. The AMA measures approximately 270 feet north-south by 80 feet east-west (19,000 square feet) and includes the boundary of CA-SMA-162 and a small buffer.<br><br>The ESA boundary shall be marked with appropriate visible barrier fencing at least four (4) feet high and attached to temporary fence posts to indicate the presence of a "no-go" area.<br><br>The ESA boundary fence shall be clearly identified with a sign every 25 feet to indicate that it is an ESA and no work is authorized beyond the marked ESA boundary.<br><br>The ESA shall be marked on construction documents and contractual language shall be included indicating that no excavation or other ground disturbing activity is permitted within the ESA. | Page 113 | Contractor | Pre-Construction |
| Subsurface construction within the AMA shall not occur without the | Page 113 | Agency | Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| presence of a qualified Archaeological Monitor and a Native American Consultant. The Native American Consultant shall assist the Archaeological Monitor during construction and provide guidance in the event of the discovery of prehistoric artifacts and/or human remains. | | | |
| Monitoring of all earth disturbing construction within the AMA shall be conducted by a qualified Archaeological Monitor with regional experience with prehistoric cultural materials and experience in identifying human bone. The San Mateo County Transportation Authority (SMCTA) Project Engineer and Project Inspector shall be responsible for implementation and enforcement of the archaeological monitoring requirements including notifying the Archaeological Monitor 48 hours in advance of any monitoring needs. | Page 113 | Agency | Construction |
| The monitoring team shall have the authority to temporarily halt construction to examine any finds within the AMA and immediately adjacent areas. Diagnostic artifacts that could provide interpretive information for CA-SMa-162 shall be collected at the discretion of the Archaeological Monitor in consultation with the Native American Consultant. | Page 113 | Agency | Construction |
| Monitoring shall be undertaken within the AMA for a minimum of five feet below the present ground surface and shall be deemed complete when no evidence of subsurface cultural materials is noted in the sediments to be removed by construction. | Page 113 | Agency | Construction |
| A pre-construction meeting shall be held with the Contractor and other project personnel to discuss the ESA requirements and the potential for the exposure of archaeological materials within the AMA. Procedures for any unanticipated discoveries shall be discussed with the Contractor and Environmental Construction Liaison and other pertinent parties. | Page 113 | Agency | Pre-Construction |
| If buried cultural materials are encountered during construction within the AMA, work shall stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. | Page 113 | Contractor | Construction |
| An Archaeological Monitoring Closure Report shall be provided by the SMCTA Project Engineer or other designated entity to Caltrans District 04 | Page 113 | Agency | Post-Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| within 30 calendar days of the completion of monitoring. The report shall provide information on the monitoring protocols, dates of monitoring, discoveries, results, etc., along with appropriate graphics and supplementary materials. | | | |
| **ESA 2 (CA-SMa-268)**<br>No monitoring is recommended as analysis of the original ground surface as of 1940 with current elevations and proposed subsurface construction impacts indicates that all construction will occur within the existing fill prism with at least a three- to five-foot buffer or more. Work in the ESA will include road widening and the installation of a retaining wall north of Reina Del Mar Avenue within the recorded site boundary.<br><br>The ESA shall be professionally surveyed and marked. The ESA western boundary is approximately 250 feet long; the eastern boundary is approximately 200 feet long; the southern boundary is 120 feet wide; and the north boundary is about 115 wide.<br><br>The ESA shall be marked on construction documents and contractual language shall be included indicating that no excavation or other ground disturbing activity is permitted below the approximate depth of the improvements proposed within the ESA.<br><br>Earth disturbing construction within the ESA shall be checked on a daily basis by the Contractor and reported to the Environmental Construction Liaison to determine the depth to the 1940 grade. If the grade is within three feet or less, this information shall be reported to the Caltrans Professionally Qualified Staff (PQS) Archaeologist for review. | Page 113 | Contractor | Construction |
| A pre-construction meeting shall be held with the Contractor and other project personnel to discuss the ESA requirements and the potential for the exposure of archaeological materials within the ESA at depths below the approximate improvement depth. Procedures for penetration into the 1940 | Page 113 | Agency | Pre-Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| grade shall be discussed with the Contractor and Environmental Construction Liaison and other pertinent parties. | | | |
| If buried cultural materials are encountered during construction within the ESA, work shall stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. | Page 113 | Contractor | Construction |
| If human remains are exposed in the ESA during project construction, all work in that area must halt and the San Mateo County Coroner must be contacted, pursuant to California Public Resources Code Sections 5097.94, 5097.98, and 5097.99. | Page 113 | Contractor | Construction |
| An Archaeological Monitoring Closure Report shall be provided by the SMCTA Project Engineer or other designated entity to Caltrans District 04 within 30 calendar days of the completion of monitoring. The report shall provide information on the monitoring protocols, dates of monitoring, discoveries, results, etc., along with appropriate graphics and supplementary materials. | Page 113 | Agency | Post-Construction |
| **2.9 Hydrology and Floodplain** | | | |
| The project will appropriately increase storm drain capacities so that local ponding associated with the one percent probability of annual exceedance storm event would not differ significantly from ponding under the existing condition. | Page 117 | Contractor | Construction |
| Standard construction BMPs will be implemented to minimize the amount of runoff to water bodies and wetlands. The project will also include permanent treatment BMPs, biofiltration swales, and bio-strips to treat stormwater originating on-site before it reaches water bodies, wetlands, or storm drain systems | Page 117 | Contractor | Construction |
| **2.10 Water Quality and Stormwater Runoff** | | | |
| The design of the project includes Best Management Practices (BMPs) to reduce the pollutant component of storm water runoff, as required by the Caltrans NPDES permit. In addition to the requirements of the NPDES permit, compliance with the requirements of the Caltrans Stormwater | Page 122 | Contractor | Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| Management Plan (SWMP) is also required. | | | |
| To minimize post-construction water quality effects, post-construction BMPs have been considered for incorporation into the project. Those BMPs considered include infiltration devices, biofiltration strips and swales, wet basins, media filters, detention devices, and multichamber treatment devices (often referred to as "treatment trains"). Biofiltration strips or swales have been identified as the most feasible BMPs for this project. | Page 122 | Contractor | Construction |
| The ground water shall be tested for potential contamination as a part of the Hazardous Waste Site Investigation Contract administered by the Hazardous Waste branch in the Office of Environmental Engineering. An appropriate dewatering Special Provision will then be prepared dependent on the levels of contaminants reported in the Site Investigation Report to ensure the proper handling and disposal of the ground water. | Page 122 | Agency | Construction |
| **2.12 Paleontology** | | | |
| The following avoidance and minimization measures for paleontological resources are proposed and are in accordance to Caltrans' Standard Environmental Reference Guidelines (Caltrans, 2007) for those areas were ground-disturbing activities may take place.<br><br>Depending on the wall type to be placed in the terrace deposits, if excavation is expected, a Paleontological Evaluation Report (PER) will be prepared, prior to construction to define actual locations where monitoring will be necessary based upon the project design. If no excavation is needed, a PER is not required because the remaining geologic deposits have been thoroughly studied in the past and the fossils are abundant enough not to be considered significant. | Page 126 | Agency | Pre-Construction |
| Based on the findings from the PER, a Paleontological Mitigation Plan (PMP) may be required to define a specific Program of measures and methods that will be implemented. These requirements may include: | Page 126 | Paleontologist | Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| A qualified paleontologist will be present to consult with grading and excavation contractors at pre-grading meetings.<br><br>The Principal Paleontologist will also have an environmental meeting to train grading and excavation contractors in the identification of fossils.<br><br>When fossils are discovered, the paleontologist (or paleontological monitor) will be called to recover them. Construction work in these areas will be halted or diverted to allow recovery of fossil remains in a timely manner.<br><br>Fossil remains collected during the monitoring and salvage portion of the Program will be cleaned, stabilized, sorted, and catalogued.<br>Prepared fossils, along with copies of all pertinent field notes, photos, and maps, will then be deposited in a scientific institution with paleontological collections. | | | |
| A final report will be completed that outlines the results of the Program. | Page 126 | Paleontologist | Post-Construction |
| **2.13 Hazardous Waste/Materials** | | | |
| Prior to initiation of the project, a soil and ground water management plan shall be developed to establish management practices for the appropriate management and disposal of affected soils and materials, if encountered. As a precautionary measure and to help limit potential construction delays, the site management plan shall also establish procedures for the management and handling of buried structures or affected materials that currently are unknown or unanticipated. A health and safety plan shall also be prepared to provide general guidance to the work hazards that may be encountered during construction activities in these areas. | Page 138 | Contractor | Pre-Construction |
| Prior to project development, a soils investigation shall be completed in areas of probable or suspect contamination to determine if petroleum hydrocarbons have affected soils that will be excavated as part of the | Page 138 | Agency | Pre-Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| proposed project. Samples shall be collected at depths up to the planned depth of excavation. The analytical results shall be compared against acceptable regulatory standards and applicable hazardous waste criteria. Based on analytical results, the investigation will provide recommendations regarding management and disposal of affected soil in the project area. | | | |
| Prior to project development, a ground water investigation shall be completed in areas of probable or suspect contamination to determine if petroleum hydrocarbons have affected ground water that will be encountered as part of the proposed project excavation. Samples shall be collected at depths up to the planned depth of excavation. The analytical results shall be compared against applicable hazardous waste criteria. Based on analytical results, the investigation will provide recommendations regarding management and disposal of affected ground water. In addition, ground water depths will be determined in areas that may be proposed to receive lead-affected soils. Under the DTSC variance for lead-affected soil, soil affected with ADL can be reused as construction fill provided that it is placed at least five feet above maximum ground water level. If dewatering is anticipated by the proposed project, the investigation report will provide recommendations regarding proper treatment, if necessary, and disposal or reuse of affected ground water. | Page 138 | Agency | Pre-Construction |
| Prior to project development, a soil investigation shall be completed to determine whether ADL has affected soils that will be excavated as part of the proposed project. The investigation for ADL shall be performed in accordance with the Department's *Lead Testing Guidance Procedure* (dated March 16, 2001). The analytical results will be compared against applicable hazardous waste criteria. Based on analytical results, the investigation will provide recommendations regarding management and disposal of affected soils in the project area including the reuse potential of ADL-affected soil during project development. The provisions of a variance granted to the Department by the California Department of Toxic Substances Control (DTSC) on September 22, 2000 (or any subsequent variance in effect when the project is constructed) regarding aerially- | Page 138 | Agency | Pre-Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| deposited lead shall be followed. | | | |
| A Registered Geologist shall perform a site visit prior to project initiation to observe and map outcrops that may contain serpentinite or ultramafic rock along the southern project alignment. If serpentinite or ultramafic rocks (rock that may contain naturally occurring asbestos) are present, the Asbestos Airborne Toxic Control Measure and Bay Area Air Quality Management District (BAAQMD) guidance shall be followed. | Page 138 | Geologist | Pre-Construction |
| Soil sampling for asbestos shall be completed along the southern end of the alignment, as well as the within the man-made embankment on the west side of SR 1, north and south of the Reina Del Mar Avenue intersection. If serpentinite or ultramafic rock is present and/or naturally occurring asbestos is detected or observed at the project site, the Asbestos Airborne Toxic Control Measure for grading projects that disturb one acre or less, requires specific actions to minimize dust emissions, such as vehicle speed limitations, application of water prior to and during ground disturbance, keeping storage piles wet or covered, and track out prevention and removal. If the project will disturb more than one acre, BAAQMD approval of an asbestos dust abatement plan is required. The plan will specify how the operation will minimize emissions and will address emissions sources. Regardless of the size of disturbance, activities must not result in emissions that are visible. | Page 138 | Agency | Pre-Construction |
| Asbestos-containing material surveys shall be completed following National Emissions Standards for Hazardous Air Pollutants (NESHAP) guidelines at any structure proposed for demolition during project development that is known or suspected to have been constructed prior to 1990. NESHAP guidelines require the removal of potentially friable asbestos-containing materials prior to building demolition. Identified asbestos-containing materials will be abated and disposed of in accordance with applicable abatement, worker health and safety, and hazardous waste regulations. | Page 138 | Agency | Pre-Construction |
| A survey of existing monitoring wells in the project area shall be performed prior to project initiation. Wells that will be affected by the proposed | | Agency | Pre-Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
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| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| project shall be properly abandoned and/or relocated; this work should be coordinated with the San Mateo County Department of Environmental Health. | | | |
| Since details regarding the source and quality of the embankment fill material, which was placed to form the embankment along the western side of SR 1, north and south of the Reina Del Mar intersection, are not known, an evaluation of soil quality (including asbestos content) within the embankment shall be performed prior to initiation of the project. Soil sampling shall be completed within the man-made embankment on the west side of SR 1, north and south of the Reina Del Mar Avenue intersection. Testing of this fill shall include contaminants, such as pesticides and metals, in additional to asbestos. | Page 138 | Agency | Pre-Construction |
| **2.16 Natural Communities** | | | |
| All temporary staging areas and construction access roads will be located in upland areas or existing developed areas out of wetland, aquatic and riparian habitats. | Page 158 | Contractor | Construction |
| No equipment will be operated in the live stream channel of Calera Creek. Other hydrological features (i.e., topographic depressions, drainage ditches, culverts, etc.) outside of the project footprint will not be manipulated (i.e., re-routed, dredged, filled, graded, etc.). | Page 158 | Contractor | Construction |
| The boundaries of the project will be clearly delineated prior to the start of construction with orange-colored plastic construction fencing (ESA) to prevent workers or equipment from inadvertently straying from the designated construction area. All construction personnel, equipment, and vehicle movement shall be confined within the designated construction, access, and staging areas. The ESA fencing will remain in place throughout the duration of the Project, while construction activities are ongoing and will be regularly inspected and fully maintained at all times. The final Project plans will depict all locations where ESA fencing will be installed and how it will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment | Page 158 | Contractor | Pre-Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| storage, and other surface-disturbing activities within ESAs. | | | |
| **2.17 Wetlands and Other Waters** | | | |
| As described in Section *2.10.3 Water Quality and Stormwater Runoff, Environmental Consequences*, in compliance with Caltrans' NPDES permit, the project includes feasible BMPs to treat stormwater runoff and control pollutants in runoff during the construction and post-construction periods. These measures will avoid indirect impacts to wetlands in the vicinity of the project. | Page 158 | | |
| **2.19 Animal Species** | | | |
| Habitat for the western pond turtle within the BSA is marginal, although it is possible that turtles may occur in the BSA occasionally as dispersing individuals. The same mitigation measures included in the project for California red-legged frogs and San Francisco garter snakes in Section *2.20 Threatened and Endangered Species* would reduce the potential for individual turtles to be affected by construction activities under either Build Alternative. | Page 170 | Contractor | Construction |
| Potential nesting substrate (e.g., bushes, trees, grass, and suitable artificial surfaces) will be removed during the non-breeding season (between September 1 and February 1), if feasible, to preclude nesting. If it is not feasible to schedule vegetation removal during the nonbreeding season, then pre-construction surveys for nesting birds shall be conducted by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. This survey shall be conducted no more than seven days prior to the initiation of construction activities. During this survey the ornithologist will inspect trees, shrubs, and other potential nesting habitats in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist, in consultation with CDFG, will determine the extent of a buffer zone to be established around the nests, typically 50-100 feet for passerine birds like yellow warblers and San Francisco common yellowthroats and up to 250 feet for white-tailed kites. | Page 170 | Ornithologist | Pre-Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
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| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| If construction activities cease for more than one week during the nesting season and nesting habitat for these species remains, additional preconstruction surveys will be conducted. | | | |
| If it is necessary to conduct pre-construction surveys for nesting birds for vegetation removal during the nonbreeding season, the surveys will cover all bird species present. Any active, native bird nest that would be affected by construction activities, during the nesting season, would be protected under the Migratory Bird Treaty Act (MBTA). Caltrans has Standard Specifications (Bird Protection S5-625) to protect nesting birds which will be incorporated into the project design and implementation. | Page 170 | Ornithologist | Pre-Construction |
| **2.20 Threatened and Endangered Species** | | | |
| To the extent practicable, nighttime construction will be minimized to avoid effects to nocturnally active listed species. When necessary in areas adjacent to California red-legged frog habitat, work lights will be directed away from adjacent habitat areas. | Page 187 | Contractor | Construction |
| Wildlife exclusion fencing (WEF) shall be installed prior to the initiation of construction activities to exclude California red-legged frogs from the construction area. The WEF will consist of silt-fencing, plywood, or suitable material at least 36 inches high that is buried six (6) inches deep in the ground, or sealed in a like manner, to prevent incursion under the fencing. In addition, at the end of each fencing segment, the WEF will be installed to curve back away from the roadway. WEF will be located along the edge of construction impact areas wherever they are within 300 feet of Calera Creek or the off-site ditch that parallels southbound SR 1, northeast of San Marlo Way and south of Calera Creek (refer to Figures 1.4 and 1.5). Special care will be taken to exclude frogs from entering the project area from the culvert outflow aquatic habitat during construction. The final project plans will show how the WEF will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing material and proper WEF installation and maintenance. | Page 187 | Contractor | Pre-Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
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| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| Prior to installation of the WEF, a preconstruction survey shall be conducted by a qualified biologist in the portions of the BSA where equipment and construction activities will be located. Additionally, a qualified biologist shall monitor the installation of the WEF to ensure that no California red-legged frogs are trapped within the construction area or harmed during installation. A post-installation survey shall be conducted to confirm the absence of frogs within the WEF. Any California red-legged frog found within the construction area (i.e., inside the WEF) will be relocated by the approved biologist to a safe location west of the BSA, which is preapproved by the USFWS and within Calera Creek or the Pacifica wastewater treatment ponds. | Page 187 | Biologist | Pre-Construction |
| The boundaries of the project shall be clearly delineated with orange-colored plastic construction fencing (ESA) to prevent workers or equipment from inadvertently straying from the designated construction area. All construction personnel, equipment, and vehicle movement shall be confined within the designated construction, access, and staging areas. This fencing will be installed concurrently with or after the WEF and will be located on the construction side of the WEF. The ESA fencing will remain in place throughout the duration of the project, while construction activities are ongoing and will be regularly inspected and fully maintained at all times. The final project plans will depict all locations where ESA fencing will be installed and how it will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs. | Page 187 | Contractor | Pre-Construction |
| Before any construction activities begin, a qualified biologist will conduct a training session with construction personnel to describe the California red-legged frog, its habitat, its conservation status, the specific measures being implemented to minimize effects to the species, and the boundaries of the project area. | Page 187 | Biologist | Pre-Construction |
| To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than one-foot deep will be | Page 187 | Contractor | Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled they must be thoroughly inspected for trapped animals. All replacement pipes, culverts, or similar structures stored in the action area overnight will be inspected before they are subsequently moved, capped and/or buried. If at any time a listed species is discovered, the Resident Engineer and Service-approved biologist will be immediately informed. | | | |
| Prior to the start of work each day, a qualified biologist, serving as a Biological Monitor, shall inspect the integrity of the WEF to ensure no holes or damage, and the area within the construction zone, focusing on pits that were left open overnight and under equipment and materials. After this time, a biological monitor shall be designated to monitor on-site compliance with all avoidance and minimization measures. The biologist shall ensure that this designated biological monitor receives training as outlined above and in the identification of California red-legged frogs and San Francisco garter snakes. The designated biological monitor shall conduct daily inspections prior to the start of work each day as described above. | Page 187 | Biologist | Construction |
| If a frog of any kind that could be a California red-legged frog is encountered during project construction, the following protocol will be implemented: 1) The Resident Engineer will be notified; 2) The Resident Engineer will ensure that all work that could result in direct injury, disturbance, or harassment of the individual animal must immediately cease; and 3)The approved-biologist, who will be on-site monitoring construction, will identify the species and may remove the individual to a preapproved safe location nearby, if necessary. | Page 187 | Contractor, Resident Engineer, Biologist | Construction |
| To offset the approximately 6.81-7.08 acres of potential upland dispersal habitat that will be permanently affected by the project, depending on which Build Alternative is chosen, and the approximately 3.75 acres that will be temporarily affected during construction, the project proposes a mitigation package in cooperation with the Golden Gate National | Page 187 | Agency | Post-Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
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| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| Recreation Area (GGNRA). The GGNRA staff has agreed in concept to this mitigation proposal; however, specific details will need to be approved by the National Park Service (NPS), who owns and manages the GGNRA. The proposed concept is to enhance a 5.14-acre parcel owned by the City of Pacifica that is west of the Pacifica waste water treatment plant and south of the GGNRA. | | | |
| In addition to enhancement of the 5.14 acres of upland habitat, the upland habitat will also be enhanced from the preserved parcel, over the saddle within the GGNRA (approximately 5.46 acres in size), and down to a bowl area adjacent to GGNRA California red-legged frog breeding ponds (see Figure 2.10). The enhancements will include depressions to collect water and downed woody debris and rocks to preserve moisture and provide cover for California red-legged frogs. | Page 187 | Agency | Post-Construction |
| Installation of WEF and ESA fencing will cause damage to sensitive and steeply sloping habitat, and thus, these measures will not be implemented during enhancement activities at the mitigation site. However, the following measures are included as part of the project mitigation and will minimize effects to California red-legged frogs during construction of the enhancement features. | Page 187 | Contractor | Construction |
| *Measure 1: Pre-construction Survey and Construction Monitoring of Mitigation Enhancement Installation.* Prior to installation of enhancement features in the mitigation area, a pre-construction survey will be conducted by a qualified biologist in the portions of the mitigation area where equipment and construction activities will be located. Additionally, a qualified biologist will monitor during development and enhancement of the mitigation area, searching the path and placement locations immediately before equipment is moved or workers advance. California red-legged frogs found within the construction area may be relocated by the approved biologist to a safe location nearby, preapproved by the USFWS, if necessary. | Page 187 | Biologist | Pre-Construction |
| *Measure 2: Construction Area Limitation.* All construction personnel, equipment, and vehicle movement shall be confined within the minimum | Page 187 | Contractor | Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| construction, access, and staging areas necessary for construction. | | | |
| *Measure 3: Construction Worker Education Program.* Before any construction activities begin, a qualified biologist will conduct a training session with construction personnel to describe the California red-legged frog, its habitat, its conservation status, the specific measures being implemented to minimize effects to the species, and the boundaries of the project area. | Page 187 | Biologist | Pre-Construction |
| *Measure 4: Inspection and Discovery*. While on-site in compliance with Measure 1, a qualified biologist, serving as a Biological Monitor, will inspect the areas within the construction zone, focusing in pits and under equipment and materials left overnight. If a frog thought to be a red-legged frog is encountered during project construction, the following protocol will be implemented: 1) The Resident Engineer will be notified; 2) The Resident Engineer will ensure that all work that could result in direct injury, disturbance, or harassment of the individual animal must immediately cease; and 3)The approved-biologist, who will be on-site monitoring construction, will identify the species and may remove the individual to a preapproved safe location nearby, if necessary. | Page 187 | Biologist | Construction |
| As a part of the project, areas of temporary habitat loss shall be seeded with native plants to reestablish habitat of equal value within five years of construction. | Page 187 | Contractor | Post-Construction |
| Take of California red-legged frogs is only permitted through consultation with the USFWS. Section 7 consultation with the USFWS has been completed. | Page 187 | Agency | Pre-Construction |
| The same mitigation measures as described above for the California red-legged frog will be required for potential impacts to individual San Francisco garter snakes and their habitat, with the exception that if any San Francisco garter snakes are found on-site during construction, the snake will be allowed to leave on its own accord. | Page 187 | Contractor, Biologist | Pre-Construction and Construction |
| **2.21 Invasive Species** | | | |
| The landscaping and erosion control included in the project will not use | Page 189 | Contractor | Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
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| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| species listed as noxious weeds. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur. | | | |
| Prior to grading, infested areas will be cleared of vegetation and all vegetative material destroyed off-site, taking care to prevent any seed dispersal in the process. | Page 189 | Contractor | Construction |
| Native local seed (within the same watershed if practicable) from a seed distributor will be planted and/or hydroseeded on all disturbed ground. | Page 189 | Contractor | Construction |
| All areas of ground disturbance within the project area will be monitored and maintained for a period of at least five years following project implementation to prevent the invasion by these weed species. | Page 189 | Agency | Post-Construction |
| **2.22 Construction Impacts** | | | |
| Prior to construction, a Transportation Management Plan (TMP) will be prepared. The TMP will address all traffic-related aspects of construction including, but not limited to, the following: traffic handling in each stage of construction, pedestrian safety/access, and bicycle safety/access. A component of the TMP will involve public dissemination of construction-related information through notices to the neighborhoods, press releases, and the use of changeable message signs. | Page 195 | Caltrans | Pre-Construction |
| Best Management Practices (BMPs) will be utilized by the contractor(s) during construction. The BMPs will be incorporated into a Storm Water Pollution Prevention Plan for the project, as required by the Caltrans NPDES permit. The SWPPP will emphasize: 1) standard temporary erosion control measures to reduce sedimentation and turbidity of surface run-off from disturbed areas; 2) personnel training; 3) scheduling and implementation of BMPs throughout the various construction phases and during various seasons; 4) identification of BMPs for non-storm water discharge such as fuel spills; and 5) monitoring throughout the construction | Page 195 | Contractor | Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
|---|---|---|---|
| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| period. | | | |
| Soil stabilization minimization measures are also included in the project. | Page 195 | Contractor | Construction |
| Temporary cover of disturbed surfaces or temporary slope protection measures will be provided per regulatory requirements and Caltrans' guidelines to help control erosion. | Page 195 | Contractor | Construction |
| In order to prevent the tracking of mud and dirt offsite, stabilized construction entrances/exits will be placed at multiple points throughout the project area. Street sweeping will also be utilized to remove tracked sediment. | Page 195 | Contractor | Construction |
| During construction, the project will follow Caltrans Standard Specification 7-1.01F, Standard Specification 10, and Standard Specification 18, which address dust control and dust palliative application, respectively. | Page 195 | Contractor | Construction |
| The project will implement all feasible $PM_{10}$ construction emissions control measures including:<br><br>Basic Control Measures: Water all active construction areas and exposed surface areas at least twice daily; Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two (2) feet of freeboard; Pave, apply water three times daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites; Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; and Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.<br><br>Enhanced Control Measures: Hydroseed or apply (nontoxic) soil stabilizers to inactive construction areas (i.e., previously graded areas inactive for 10 days or more); Enclose, cover, water twice daily, or apply (nontoxic) soil binders to exposed stockpiles (e.g., dirt and sand); Limit traffic speeds on unpaved roads to 24.1 kilometers per hour (15 miles per hour); Install sandbags or other erosion control measures to prevent silt runoff to public | Page 195 | Contractor | Construction |

| AVOIDANCE, MINIMIZATION, AND MITIGATION SUMMARY | | | |
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| **Measure** | **Reference** | **Responsible Party** | **Timing** |
| roadways; and Replant vegetation in disturbed areas as quickly as possible.<br><br>Operation Control Measures: Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site; Install windbreaks or plant trees or vegetative wind breaks at windward side(s) of construction areas; Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph; Limit the area subject to excavation, grading, and other construction activity at any one time. | | | |
| Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. | Page 195 | Contractor | Pre-Construction |
| Unnecessary idling of internal combustion engines within 100 feet of residences shall be strictly prohibited. | Page 195 | Contractor | Construction |
| Avoid staging of construction equipment within 200 feet of residences and locate all stationary noise-generating construction equipment, such as air compressors and portable power generators, as far practical from noise sensitive residences. | Page 195 | Contractor | Construction |
| All construction equipment shall be required to conform to Section 7-1.01I – Sound Control Requirements of the latest Standard Specifications. | Page 195 | Contractor | Construction |
| Avoid nighttime construction work within 225 feet of sensitive land uses where feasible. | Page 195 | Contractor | Construction |
| Demolition and pile driving activities shall be limited to day-time hours only. If night-time, impulsive work is required, implement a construction noise-monitoring program and provide additional measures as necessary (in the form of noise control blankets or other temporary noise barriers, etc.) for affected receivers. | Page 195 | Contractor | Construction |

# Appendix J

## Biological Opinion

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
81420-2009-F-1328

JAN 26 2012

Mr. Jim Richards
Office of Biological Sciences and Permits
California Department of Transportation
P.O. Box 23660
Oakland, California 94623-0660

Subject: Biological Opinion on the Effects of the State Route 1/Calera Parkway Improvement Project, San Mateo County, California (Caltrans EA 254600)

Dear Mr. Richards:

This letter responds to a letter from the California Department of Transportation (Caltrans), dated November 1, 2010, which requested formal consultation for the proposed State Route 1 (SR-1)/ Calera Parkway Improvement Project, San Mateo County, California. Your letter was received by the U.S. Fish and Wildlife Service (Service) on November 1, 2010 (Caltrans EA 254600). The proposed project is not located in proposed or designated critical habitat for any federally-listed species; therefore, no critical habitat will be affected. This document represents the Service's biological opinion on the effects of the project on the threatened California red-legged frog (*Rana draytonii*) and endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*). This letter issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act).

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users legislation (23 U.S.C. 327) allows the Secretary of the U.S. Department of Transportation acting through the Federal Highway Administration (FHWA) to establish a Surface Transportation Project Delivery Pilot Program, whereby a State may assume the FHWA responsibilities under the National Environmental Policy Act (NEPA) for environmental review, agency consultation and other action pertaining to the review or approval of a specific project. Caltrans assumed these responsibilities for the FHWA on July 1, 2007 through a Memorandum of Understanding (MOU) within the State of California (http://www.dot.ca.gov/ser/downloads/MOUs/nepa_delegation/sec6005mou.pdf).

This biological opinion is based on: (1) the *State Route 1/Calera Parkway Improvement Project, Biological Assessment* dated September 2010; (2) letter from Caltrans to the Service dated November 1, 2010; (3) meetings attended by the Service on September 20, 2006, and August 14, 2008; (4) site visits conducted by the Service and Caltrans on September 5, 2008, and December 14, 2009; (5) *Draft Environmental Impact Report/Environmental Assessment* dated August 2011; (6) correspondence and electronic mail concerning the proposed action between Caltrans, California Coastal Commission, citizen stakeholders, and the Service; and (7) other information available to the Service.

**Consultation History**

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| September 20, 2006 | The Service attended a meeting with California Coastal Conservancy, San Mateo County Resource Conservation District, City of Pacifica, and H.T. Harvey and Associates. |
| July 8, 2008 | The Service attended a meeting with Caltrans District 4 staff, California Coastal Conservancy, San Mateo County Transportation Authority, Mark Thomas & Company, and H.T. Harvey and Associates. |
| August 14, 2008 | The Service attended a meeting with Caltrans District 4 staff, California Coastal Conservancy, California Department of Fish and Game (CDFG), Regional Water Quality Control Board, City of Pacifica, San Mateo County Transportation Authority, Mark Thomas & Company, and H.T. Harvey and Associates. |
| September 5, 2008 | The Service attended a site visit with Caltrans District 4 staff, California Coastal Conservancy, CDFG, City of Pacifica, San Mateo County Transportation Authority, Mark Thomas & Company, and H.T. Harvey and Associates. |
| August 10, 2009 | Phone conversation between Jerry Roe of the Service and Ryan Graybehl of Caltrans District 4 determining that at-grade crossings for listed species are not viable within the project footprint based on habitat conditions and topography. |
| December 14, 2009 | The Service attended a site visit with California Coastal Conservancy; San Mateo County Transportation Authority; Mark Thomas & Company; H.T. Harvey and Associates; and Post, Buckley; Post, Buckley, Schuh & Jernigan, Inc. |
| February 11, 2010 | The Service received a letter dated February 8, 2010, from the San Mateo County Transportation Authority accompanying visuals and exhibits of proposed build alternatives and retaining wall details. |
| February 12, 2010 | The Service received the Notice of Preparation of a Draft Environmental Impact Report for the SR-1/Calera Parkway Improvement project. |
| November 1, 2010 | The Service received a letter requesting the initiation of formal consultation dated November 1, 2010, and a Biological Assessment for the SR-1/Calera Parkway Improvement project. |
| May 18, 2011 | The Service sent an email to Caltrans with proposed changes to the conservation measures provided by Caltrans to minimize take of California red-legged frogs and San Francisco garter snakes. |
| May 24, 2011 | The Service received an email from Caltrans stating that all changes recommended by the Service to the conservation measures are reasonable and acceptable by Caltrans. |
| August 26, 2011 | Received notification via email that the Draft Environmental Impact Report/Environmental Assessment for the State Route 1/Calera Parkway Widening Project was available for review and comment. |
| November 8, 2011 | The Service requested revised exhibits depicting the action area and |

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| | California red-legged frog and San Francisco garter snake habitat features within the action area. |
| November 16, 2011 | Received revised exhibits and area calculations from Caltrans for the California red-legged frog and San Francisco garter snake within the action area. |
| September 20, 2006 - November 30, 2011 | Electronic and phone correspondence between Caltrans, California Coastal Commission, CDFG, San Mateo County Transportation Authority, H.T. Harvey and Associates and the Service. |

## BIOLOGICAL OPINION

### Description of the Proposed Action

The following is a summary of the project description, inclusive of the proposed conservation measures, provided by Caltrans in the September 2010 Biological Assessment (Caltrans 2010). Any changes to the project description as presented in this biological opinion are subject to the requirements of reinitiation of formal consultation.

Project Description

The SR-1/Calera Parkway Improvement Project is an operational improvement project to alleviate current congestion within this signalization section of SR-1. The current level of congestion at the two intersections of Reina Del Mar Avenue and Fassler Avenue is extremely high on this section of SR-1 during peak commuter traffic hours resulting in delays extending up to 1.4 miles.

The proposed project is within the City of Pacifica's sphere of influence. The segment of SR-1 proposed for improvements extends from approximately 1,500 feet south of Fassler Avenue (post mile [PM] 41.7) to approximately 2,300 feet north of Reina Del Mar Avenue (PM 43.0), a distance of approximately 1.3 miles. This segment, which is the primary commute-period congestion point along SR-1 through Pacifica, is a four lane highway with nonstandard shoulders and a solid, concrete median barrier. There are signalized intersections at the Fassler Avenue and Reina Del Mar Avenue cross streets (the western approach to the Fassler Avenue intersection is Rockaway Beach Avenue). Calera Creek passes under SR-1 via a 470-foot long, 10-foot x 8-foot concrete box culvert approximately 300 feet north of Reina Del Mar Avenue. Calera Creek flows to the Pacific Ocean approximately 2,000 feet west of SR-1.

The proposed project would widen SR-1 from four lanes to six lanes between Fassler Avenue and Reina Del Mar Avenue. In the northbound direction, the new (third) northbound lane would be added to the outside of the two existing lanes, beginning approximately 1,500 feet south of Fassler Avenue and ending approximately 1,600 feet north of Reina Del Mar Avenue before merging with the second lane and conforming back to the original highway cross section approximately 2,300 feet north of Reina Del Mar Avenue. In the southbound direction, a new (third) southbound lane would be added to the inside of the two existing lanes, beginning approximately 1,500 feet north of Reina Del Mar Avenue and continuing south to Fassler Avenue. This inside lane would be identified through signage as a dedicated lane for left turn access to Reina Del Mar Avenue and Fassler Avenue only. After passing the Reina Del Mar Avenue intersection, the inside lane would be identified as a left-turn only lane for Fassler Avenue. At the Fassler Avenue intersection, only the right two lanes would be carried through the intersection to conform to the two existing lanes south of Fassler Avenue.

The proposed project includes a 16-foot wide landscaped median with concrete barriers on each side and two 10-foot wide inside shoulders from approximately 300 feet north of San Marlo Way to approximately 300 feet south of Reina Del Mar Avenue. The SR-1 approaches to the two signalized intersections would be widened to improve turning movements and turn-lane capacities. Between the two signalized intersections, SR-1 would be widened by 40 to 70 feet, primarily on the west side to provide for the additional two lanes, landscaped median and standard shoulders. The Fassler Avenue/Rockaway Beach Avenue intersection would consist of the following proposed improvements:

- The northbound SR-1 approach would be widened from four lanes to five lanes, which would include one left-turn lane, three through lanes, and one right-turn lane.
- SR-1 immediately north and south of the intersection would be widened from approximately 80 feet to approximately 120 feet.
- New pavement sections would be constructed south of the intersection on both the east and west sides of existing SR-1 to provide room for the northbound highway improvements. On the east side, new pavement would be constructed approximately 10 feet beyond the edge of the existing pavement extending 100 feet southward. On the west side, new pavement would be constructed approximately 30 feet beyond the edge of the existing pavement extending 600 feet southward.
- New pavement would be constructed north of the intersection on the west side of SR-1 approximately 40 feet beyond the edge of the existing pavement extending northward to provide room for northbound improvements.
- The southbound SR-1 approach would remain the same with five lanes, including two left-turn lanes (one of which will be inside the existing lanes from Reina Del Mar Avenue), two through lanes, and one right-turn lane.
- The eastbound Rockaway Beach Avenue approach would remain the same with two lanes, including one left-turn/through lane and one right-turn lane. No widening of Rockaway Beach Avenue is proposed.
- The westbound Fassler Avenue approach would remain the same with three lanes, including one left-turn/through lane and two right-turn lanes. No widening of Fassler Avenue is proposed.

The Reina Del Mar Avenue intersection would consist of the following proposed improvements for each approach:

- The northbound SR-1 approach would be widened from three lanes to four lanes, comprising one left-turn lane, two through lanes, and one through/right-turn lane.
- The southbound SR-1 approach would be widened from three lanes to five lanes comprising one left-turn lane, three through lanes (the inside lane would be signed as a left-turn lane for Fassler Avenue and the second and third lanes would be signed for southbound SR-1), and one right-turn lane.
- SR-1 immediately north of the intersection would be widened from approximately 100 feet to approximately 165 feet. SR-1 immediately south of the intersection would be widened from approximately 100 feet to 150 feet.
- New pavement would be constructed on the west side of existing SR-1 both north and south of the intersection to accommodate the northbound and southbound highway

improvements. South of the intersection, new pavement would be constructed approximately 70 feet beyond the edge of the existing pavement for 600 feet southward. North of the intersection, new pavement would be constructed approximately 60 feet beyond the edge of the existing pavement for approximately 400 feet northward. No new pavement section would be constructed on the east side of the existing highway due to right-of-way constraints.

- The Reina Del Mar Avenue approaches would remain the same with two lanes, comprising one left-turn/through/right-turn lane, and one right-turn lane westbound and just one lane approaching the intersection eastbound. No widening of Reina Del Mar Avenue is proposed.

As a result of preliminary evaluation, the project has been modified with retaining walls to constrain the total impact area to avoid Environmentally Sensitive Areas (ESAs), minimize right-of-way acquisition, improve signal management alternatives, and maintain the current highway grade. Retaining wall construction activities include:

- Construction of approximately 310 feet of retaining wall along the east side of SR-1 approximately 1,000 feet south of Fassler Avenue to stay within existing right-of way. The retaining wall would extend up to 10 feet above finished grade and up to 2 feet below.
- Construction of approximately 630 feet of retaining wall along the west side of SR-1 south of Rockaway Beach Avenue to contain the highway widening at the top of the large existing embankment and avoid existing utilities. The retaining wall would extend up to 10 feet above finished grade and 3 feet below.
- Construction of approximately 430 feet of retaining wall along the east side of SR-1 at the location of the Harvey Way frontage road to contain the highway widening and preserve the frontage road. The retaining wall would extend up to 5 feet above finished grade and up to 2 feet below.
- Construction of approximately 900 feet of retaining wall along the east side of SR-1 just north of Harvey Way to contain the widening within the existing State right-of- way. The retaining wall would extend up to 14 feet above finished grade and up to 2 feet below.
- Construction of approximately 1,200 feet of retaining walls along the west side of SR-1 between San Marlo Way and Reina Del Mar Avenue to prevent the highway widening from encroaching into California Coastal Commission jurisdictional wetlands. These retaining walls would extend up to 10 feet above finished grade and up to 3 feet below.
- Construction of approximately 200 feet of retaining wall along the west side of SR-1 north of Reina Del Mar Avenue to prevent the highway widening from encroaching into California Coastal Commission jurisdictional wetlands (wetlands perched on top of the man-made embankment). The retaining wall would extend up to 24 feet above finished grade and up to 2 feet below.

Consideration was given to installation of wildlife crossings under the roadway but, due to the steep topography of the site, it was determined that no practical crossing point existed to connect areas of natural habitat. Many lowland areas are developed and steep topography or cut slopes would prohibit an effective entrance/exit for listed species. However, to minimize injury or mortality to California red-legged frogs or San Francisco garter snakes due to vehicle strikes, the following component was added to the project.

- A permanent exclusion barrier will be constructed in the open areas between the proposed retaining walls to restrict California red-legged frog and San Francisco garter snake access onto SR-1. These movement barriers will be placed on the western side of SR-1 approximately 300 feet north of Calera Creek and near San Marlo Way except at the Reina Del Mar Avenue roadway to the parking lot and the existing quarry driveway.

With the widening on the east side of SR-1 to accommodate the northbound lane, modification of the existing storm drainage system will be necessary. Currently, on the east side of SR-1, the storm drain collects water from the natural areas between Reina Del Mar Avenue and Harvey Way and transports it under SR-1 at two locations. The northern cross-culvert terminates in a junction box on the west side of the roadway with an outfall in a culvert. The southern cross-culvert terminates in a small open ditch (culvert outfall ditch). The expanded width of the roadway does not allow use of the northern cross-culvert and junction box. A new storm drain cross-culvert will be installed just south of the existing northern cross-culvert. The new cross culvert will terminate in a new detention/junction box that will then connect to the existing culvert prior to the outfall. The detention/junction box will hold high storm flows to allow these flows to drain through the smaller existing culvert at a slower rate. This design avoids impacts to sensitive habitats (i.e., Seasonal Wetland/Seasonal Aquatic habitat).

Other project components include:

- Reconstructing and upgrading the existing multiuse path adjacent to the western edge of the highway north of Reina Del Mar Avenue along the west edge of the widened highway. A concrete drainage ditch between the path and hillside would also be reconstructed.
- Removing portions of the man-made embankments along the west side of SR-1 at Reina Del Mar Avenue, created in the 1960's by a previous Caltrans project, to accommodate widening of the roadway along with the multiuse path and drainage ditch. The embankment will be cut at approximately a 2:1 slope except where the retaining wall, just north of Reina Del Mar Avenue, protects the California Coastal Commission jurisdictional perched wetlands.
- Removing a portion of the native embankment along the west side of SR-1 south of Mori Point Road to allow the highway to be widened approximately 55 feet, and accommodate the relocation of the 12-foot wide multiuse path and 6-foot drainage ditch, westward at existing highway grade. The embankment will be cut at approximately a 2:1 slope.
- Constructing new pavement on the east side of SR-1 from approximately the north end of Harvey Way to approximately 500 feet south of Reina Del Mar Avenue to accommodate a 16-foot wide landscaped median and standard shoulder widths.
- Replacing the existing intersection traffic signal equipment at both the Fassler Avenue and Reina Del Mar intersections and interconnect the two signals.
- Constructing a bridge for southbound lanes to cantilever over a culvert outflow ditch to avoid impacting California Coastal Commission jurisdictional wetland habitat north of San Marlo Way.
- Acquiring right-of-way of properties:
    - Between SR-1 and Old County Road west of SR-1 from Rockaway Beach Avenue to San Marlo Way, where the right-of-way width is narrowest to accommodate the widening.

- A linear acquisition along the west side of SR-1 along the old quarry property immediately north of San Marlo Way.
- A narrow strip of right-of-way from properties on the east side of SR-1 between Harvey Way and Reina Del mar Avenue to accommodate highway widening and utility easements.

Storm water treatment facilities will be incorporated into the project within the future right-of-way to accommodate the additional runoff resulting from the project to maintain good post-construction water quality. Proposed permanent treatment best management practices (BMPs) would be implemented as follows:

- A 560-foot bio-filtration swale along the west side of SR-1 south of Reina Del Mar Avenue.
- A second 440-foot bio-filtration swale along the west side of SR-1 south of Reina Del Mar Avenue.
- A 250-foot bio-filtration swale along the west side of SR-1 from Rockaway Beach Avenue to San Marlo Way.
- A 370-foot bio-filtration swale along the east side of SR-1 south of Coast lane.
- A 380-foot bio-filtration swale along the east side of SR-1 south of Fassler Avenue.
- A 750-foot bio-filtration swale along the east side of SR-1 between Harvey Way and Reina Del Mar Avenue.
- A 160-foot bio-filtration swale along the east side of SR-1 north of Mori Point Road.

A permanent barrier will be constructed around the filtration swales between Reina Del Mar Avenue and San Marlo Way west of SR-1 to prevent California red-legged frogs and San Francisco garter snakes from gaining access to these facilities where they could become harassed, injured or killed by routine maintenance activities associated with vegetation management within the swales.

Construction

The project is funded by San Mateo County Measure A, originally approved by the voters in 1988. In addition, funds may be provided through FHWA. Construction is scheduled to begin in August 2013 and be completed by February 2015.

Typical fill slopes of 4:1 and cut slopes of 2:1 will be used except where there are right-of-way or ESA constraints. Grading is anticipated along the western side of SR-1 from 600 feet south of Reina Del Mar Avenue to Mori Point Road. The existing concrete box culvert, located under SR-1 approximately 300 feet north of Reina Del Mar Avenue, would remain in place and be protected during construction. Additional areas, typically 10 feet beyond the limits of the proposed fill and cut slopes and the face of retaining walls, would be temporarily disturbed by construction.

Widening of SR-1 primarily to the west requires shifting the existing median concrete barrier westward to create the necessary width for three lanes in each direction along with left and right shoulders. This would require the realignment and restriping of lanes transitioning to conform to the existing 4-lane structure at the north and south ends of the project. The project portion of SR-1 would be restriped to standard 12-foot wide traffic lanes, inside shoulders varying from

2 feet to 10 feet in width, standard 10-foot wide outside shoulders, and standard lane tapers and transition lengths.

*Construction Equipment*

Construction equipment would consist of excavators, scrapers, bulldozers, backhoe loaders, cement trucks, cranes, asphalt/paving/concrete equipment, and specialized equipment such as a jackhammer mounted on an excavator to remove the existing concrete barrier. A staging area would be located along the west side of SR-1, approximately 600 feet south of Reina Del Mar Avenue, within the state right-of-way.

*Construction Staging and Details*

It is anticipated that the project will be completed in 6 stages. Staging is based on the premise that two through lanes in each direction must be maintained at all times during peak hours. In addition, pedestrian access and access to existing businesses will be maintained during construction.

Preliminary plans for stage construction for this project are:

Stage 1 Orange-colored mesh fencing (ESA or construction fencing; i.e., Caltrans Standard Specifications *Environmentally Sensitive Areas* S5-760 and *Temporary Fence [Type ESA]* 07-446) will be installed to protect designated ESA areas within the project limits before starting work. During stage 1, approximately 4,680 feet of existing median concrete barrier will be removed between 500 feet south of Fassler Avenue and 300 feet north of Mori Point Road. Pavement in the median will then be conformed to the adjacent roadway. A jackhammer mounted on an excavator would be used to remove the existing concrete barrier. It is anticipated that this demolition work and conform paving in the median will be done at night and will necessitate lane closures. Care will be taken to direct lighting toward the roadway and away from Calera Creek and wetland habitats nearby.

Stage 2 The existing traffic lanes will be removed and the roadway will be restriped with temporary 11-foot wide lanes by holding the existing east edge of pavement stripe and moving the lanes eastward on the existing pavement section. This will provide maximum clearance between the work zone along the west side of SR-1 and traffic lanes. Approximately 5,700 feet of temporary railing (type K, referred to as k-rail) will be placed along SR-1 between the work zone and roadway to protect construction workers. The restriping of traffic lanes and placement of k-rail would be done at night with lane closures. Care will be taken to direct lighting toward the roadway and away from Calera Creek and wetland habitats nearby.

Roadway widening will then take place along the west side of SR-1 from approximately 600 feet south of Rockaway Beach Avenue to 300 feet north of Mori Point Road. Asphalt pavement will be removed and the roadway expansion excavated up to the existing right edge of traveled way (ETW). The new pavement section will be constructed, varying from 20 feet to 75 feet wide by 30 inches deep. The existing pavement will be sawcut at the ETW to ensure a clean conform edge after excavation. At cut locations where retaining walls are not proposed, the existing embankment along the west side of SR-1 will be cut

back and contoured at 2:1 slope to accommodate the new widening. Approximately 160,000 cubic yards of fill will be removed from the existing man-made embankment and hill slope. Clean fill material from this excavation will be reused as embankment where fill is needed for the project. Waste materials and construction debris will be loaded onto dump trucks and then hauled to an existing materials waste site located approximately 8 miles north of the project.

The phases of construction work in Stage 2 include:

Phase 1 Construct the bridge over existing culvert outfall on the west side of SR-1 approximately 140 feet north of San Marlo Way. The proposed structure will be a simple 40-foot span flat slab bridge. The new concrete slab and abutments will be cast-in-place construction.

Phase 2 Construct approximately 1,830 feet of retaining wall along the west side of SR-1 from 600 feet south of Rockaway Beach Avenue to 1,250 feet north of San Marlo Way. This retaining wall will be cast-in-place construction per Caltrans standard type 5 design. The maximum wall height above finished grade is 10 feet. Structural excavation for the new spread footing for the retaining wall would be approximately 3 feet below existing ground.

Phase 3 Construct approximately 200 feet of retaining wall along the west side of SR-1 north of Reina Del Mar Avenue. The proposed soil nail retaining wall will not require a footing. The maximum wall height above finished grade is 24 feet. The installation of the soil nail wall is typically done by the drill-and-grout method where soil-nail reinforcement is inserted into a pre-drilled hole, which is then cement-grouted under gravity or low pressure. Various drilling techniques such as rotary, rotary percussive and down-the-hole hammer drilling would be used to suit different ground conditions. Steel reinforcement for the wall is installed adjacent to the surface of the embankment and is anchored to the soil-nail reinforcements. Shotcrete is then applied to the vertical surface pneumatically to create the concrete wall.

Phase 4 Reconstruct 1,800 feet of the asphalt multiuse path and adjacent concrete valley gutter along the west side of SR-1 from Reina Del Mar Avenue to Mori Point Road. The asphalt path would be constructed per Caltrans standard design for a 2-way bike path which includes an 8-foot minimum paved area with 2 feet of unpaved shoulder on both sides of the path.

Phase 5 Construct new roadway subgrade and structural section west of existing edge of pavement.

Stage 3 The roadway alignment will then be shifted to the west onto the new pavement of the widening completed in the previous stage to provide room for construction along the east side of SR-1 during stage 3. Interim traffic stripes placed during

stage 2 will be removed and the pavement will be restriped to reflect the new shift in the roadway alignment. Temporary 11-foot wide lanes will be used to maximize the traffic clearance from the work zone. At night with lane closures, approximately 3,400 feet of temporary k-rail will be placed along the east side of SR-1 between traffic and the work area.

The widening will then take place along the east side of SR-1 from approximately 1,000 feet south of Coast Lane to 1,800 feet north of Fassler Avenue after placement of the temporary k-rail. The new pavement width will vary from 0 feet to 28 feet from the existing ETW with a pavement section that is 30 inches deep. Approximately 7,000 cubic yards of fill will be removed along the east side of SR-1 north of Harvey Way as a result of cutting back the existing hillside at 2:1 slope to accommodate the new widening.

The phases of construction work in Stage 3 include:

Phase 1 — Construct approximately 310 feet of soil nail retaining wall adjacent to the existing 50 feet high embankment along the east side of SR-1 south of Coast Lane. The maximum wall height above finished grade is 10 feet. This proposed soil nail retaining wall will not require a footing.

Phase 2 — Construct approximately 430 feet of retaining wall along the east side of SR-1 north of Fassler Avenue and adjacent to Harvey Way frontage road. This proposed retaining wall will be constructed per Caltrans standard Type 1 design and will replace the existing paved embankment currently located in this area. The maximum wall height above finished grade is 5 feet. Structural excavation for the new spread footing for the retaining wall needs to be approximately 3 feet below existing ground. Structural excavation and concrete formwork will be done at night with lane closure due to the limited space available for construction activities between the elevated highway 5 feet above the frontage road and the adjacent buildings. Nearby utility poles and buildings within close proximity of the work zone could be damaged by the use of large construction equipment so construction equipment will be limited to a mini excavator and work done by hand.

Phase 3 — Construct approximately 900 feet of soil nail retaining wall along the east side of SR-1 north of Harvey Way. The maximum wall height above finished grade is 14 feet. This proposed soil nail retaining wall will not require a footing.

Phase 4 — Construct approximately 2,400 feet of new curb and sidewalk along the east side of SR-1 from north of Harvey Way to 200 feet north of Reina Del Mar Avenue. New curb ramps and driveways will be constructed to meet Americans with Disabilities Act standards.

Phase 5 — Construct the remaining new roadway structural section to the east of the existing highway.

Stage 4 All proposed widening of SR-1 from a 4-lane to a 6-lane facility, along both the east and west sides of SR-1, would have been completed prior to this stage. Approximately 6,600 feet of new median concrete barrier will be constructed along SR-1 from 600 feet south of Fassler Avenue to 250 feet north of Mori Point Road during this stage. A second median barrier will be constructed between San Marlo Way and Reina Del Mar Avenue to contain the landscaped median. Placement of temporary k-rail on opposite sides of the proposed median barrier alignment will be needed for traffic and construction safety. Two parallel rows of k-rail (9,000 feet total) would be placed at a minimum offset of 24 feet from each other with access to the median work area at both Fassler and Reina Del Mar Avenue intersections. The placement of k-rail will be done at night with lane closures. From approximately 300 feet north of San Marlo Way to approximately 300 feet south of Reina Del Mar Avenue, the median landscaping will be installed between the 2 concrete barriers.

Stage 5 During this stage, pavement conform grinding and asphalt concrete overlay will eliminate the existing roadway crown on northbound SR-1 from Fassler Avenue to Reina Del Mar Avenue. The area adjacent to the concrete median barrier alignment will be re-graded so that runoff will flow away from the median towards the curb and gutter along the east side of SR-1 so that the runoff can be collected and conveyed into a modified storm drainage system underneath the curb. Construction would be performed at night with lane closures.

Stage 6 The work involved in this stage will be the installation of final traffic striping.

*Post-Project Maintenance*

Bio-Filtration Strips or Swales:

Regular inspections and maintenance would be required to keep the bio-filtration swales working efficiently. For example, swales would be mowed 2-3 times a year, primarily during the growing season. The grasses would be maintained to a desired height of 6-8 inches and never less than 3 inches. Grass clippings would be removed to prevent nutrient release during their decomposition and to reduce clumping along the bottom. Removal of sediment and debris build-up that prevents flow and restricts plant growth would be an important part of routine maintenance. The barrier isolating the bio-filtration feature will prevent take of listed species during maintenance, particularly mowing. In addition, repairing eroded areas and reseeding bare areas would be general requirements of most maintenance plans. After construction, maintenance of the roadsides will continue as it is currently with mowing in grassland and ruderal areas along the verge.

Conservation Measures

To reduce potential effects to California red-legged frogs and San Francisco garter snakes, Caltrans proposes to incorporate construction BMPs and general conservation measures into the proposed roadway construction project. These measures will be communicated to the contractor through the use of special provisions included in the contract bid solicitation package. These measures include BMPs for water quality control, construction site management practices, wildlife protection measures, invasive weed control, and site restoration.

*Implementation of Water Quality BMPs*

Storm Water Pollution Prevention Plans (SWPPP) and erosion control BMPs will be developed and implemented to minimize any wind or water-related erosion and will be in compliance with the requirements of the Regional Water Quality Control Board. The SWPPP will provide guidance for design staff to include provisions in construction contracts for measures to protect sensitive areas and prevent and minimize storm water and non-storm water discharges. Protective measures will include, at a minimum:

1. No discharge of pollutants from vehicle and equipment cleaning will be allowed into any storm drains or water courses.
2. Vehicle and equipment fueling and maintenance operations will be at least 50 feet away from watercourses, except at established commercial gas stations or established vehicle maintenance facility.
3. Concrete wastes will be collected in washouts and water from curing operations will be collected and properly disposed. Neither will be allowed into watercourses.
4. Spill containment kits will be maintained on-site at all times during construction operations and/or staging or fueling of equipment.
5. Dust control measures will include use of water trucks and dust palliatives to control dust in excavation-and-fill areas, covering temporary access road entrances and exits with rock (rocking), and covering of temporary stockpiles when weather conditions require.
6. Coir rolls or straw wattles will be installed along or at the base of slopes during construction to capture sediment. To prevent wildlife from becoming entangled or trapped in erosion control materials, no plastic mono-filament netting (i.e., erosion control matting) or similar material will be used.
7. Protection of graded areas from erosion using a combination of silt fences, fiber rolls along toes of slopes or along edges of designated staging areas, and erosion control netting (such as jute or coir) as appropriate on sloped areas. To prevent wildlife from becoming entangled or trapped in erosion control materials, no plastic mono-filament netting (i.e., erosion control matting) or similar material will be used.
8. Permanent erosion control measures such as bio-filtration strips and swales to receive storm water discharges from the highway, or other impervious surfaces will be incorporated to the maximum extent practicable.

Caltrans standard BMPs to maintain water quality are also a part of the project to avoid or at least minimize degradation of water quality within the project and downstream areas in Calera Creek. Permanent BMPs will be incorporated into the project such as Move-In/Move-Out (Erosion Control), Erosion Control (Type D), and Fiber Rolls. A SWPPP will be developed for the construction period (Caltrans Standard Specification *Relations with California Regional Water Quality Control Board*), standard pollution control procedures and site management will be in force, as will be dust control and street clean-up measures.

*Construction Site Management Practices*

The following site restrictions will be implemented to avoid or minimize effects on listed species, wildlife in general, and their habitats:

1. A speed limit of 15 miles per hour in the project footprint in unpaved areas will be enforced to reduce dust and excessive soil disturbance.
2. Construction access, staging, storage, and parking areas, will be located within the project right-of-way outside of any designated ESA or outside of the right-of-way in areas environmentally cleared by the contractor. Access routes and the number and size of staging and work areas will be limited to the minimum necessary to construct the proposed project. Routes and boundaries of roadwork will be clearly marked prior to initiating construction or grading.
3. To the maximum extent practicable, any borrow material will be certified to be non-toxic and weed free.
4. All food and food-related trash items will be enclosed in sealed trash containers and removed completely from the site at the end of each day.
5. No pets from project personnel will be allowed anywhere in the action area during construction.
6. No firearms will be allowed on the project site except for those carried by authorized security personnel, or local, state or federal law enforcement officials.
7. All equipment will be maintained such that there will be no leaks of automotive fluids such as gasoline, oils or solvents and a Spill Response Plan will be prepared. Hazardous materials such as fuels, oils, solvents, etc. will be stored in sealable containers in a designated location that is at least 50 feet from wetlands and aquatic habitats.
8. Servicing of vehicles and construction equipment including fueling, cleaning, and maintenance will occur at least 50 feet from any aquatic habitat unless separated by topographic or drainage barrier or unless it is an already existing gas station. Staging areas may occur closer to the project activities as required.

*Wildlife Protection Practices*

The following construction practices will be implemented to avoid or minimize effects on listed species, wildlife in general, and their habitats:

1. **Minimize Nighttime Work.** To the extent practicable, nighttime construction will be minimized to avoid effects to nocturnally active listed species. When utilized in areas adjacent to California red-legged frog or San Francisco garter snake habitat, work lights will be directed away from adjacent habitat areas.
2. **ESA Fencing.** Prior to the start of construction, ESAs – defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed – will be clearly delineated using high visibility orange fencing. Construction work areas include the active construction site and all areas providing support for the project including areas used for vehicle parking, equipment and material storage and staging, access roads, etc. The ESA fencing will remain in place throughout the duration of the project, while construction activities are ongoing and will be regularly inspected and fully maintained at all times. The final project plans will depict all locations where ESA fencing will be installed and how it will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing materials and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs. In addition, hydrological features (i.e., topographic depressions, drainage ditches, culverts, etc.)

outside of the project footprint will not be manipulated (i.e., re-routed, dredged, filled, graded, etc.). This will avoid potential effects to wetlands and waters outside of the project footprint that are hydrologically connected to wetland features within the project footprint.

3. **Wildlife Exclusion Fencing (WEF).** Prior to the start of construction, WEF will be installed west of SR-1 between San Marlo Way and Mori Point Road along limits of disturbance in all areas where California red-legged frogs and San Francisco garter snakes could enter the project site. At a minimum, the WEF will be located along the edge of construction impact areas west of SR-1 wherever they are within 300 feet of Calera Creek or the quarry site ditch, both of which are ESAs. Special care will be taken to exclude these species from entering the project from the culvert outflow aquatic habitat during construction. The final project plans will show where and how the WEF will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing materials and proper WEF installation and maintenance. The WEF will remain in place throughout the duration of the project, while construction activities are ongoing, and will be regularly inspected and fully maintained. Repairs to the WEF shall be made within 24 hours of discovery. Upon project completion the WEF will be completely removed, the area cleaned of debris and trash, and returned to natural conditions.

4. **Environmental Awareness Training.** Before the onset of construction activities, a qualified biologist will conduct an environmental education program for all construction personnel. At a minimum the training will include a description of the California red-legged frog, San Francisco garter snake and migratory birds and their habitats; the occurrence of these species within the action area; an explanation of the status of these species and protection under the Act; the measures to be implemented to conserve listed species and their habitats as they relate to the work site; and boundaries within which construction may occur. A fact sheet conveying this information will be prepared and distributed to all construction crews and project personnel entering the project footprint. Upon completion of the program, personnel will sign a form stating that they understand all conservation measures and terms and conditions, as well as the implications of non-compliance under the Act.

5. **Avoidance of Entrapment.** To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1-foot deep will be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled they must be thoroughly inspected by a Service-approved biologist for trapped animals. All replacement pipes, culverts, or similar structures stored in the action area overnight will be inspected before they are subsequently moved, capped and/or buried. If at any time a listed species is discovered, the Resident Engineer and Service-approved biologist will be immediately informed.

6. **Vegetation Removal.** Any vegetation that is within the cut and fill line or growing in locations where permanent structures will be placed (e.g., road alignment, shoulder widening, retaining walls, soil nail walls, bio-filtration swales, etc.) will be cleared. Vegetation will be cleared only where necessary and will be cut above soil level except in areas that will be excavated for roadway construction. This will allow plants that reproduce vegetatively to resprout after construction. All clearing and grubbing of woody vegetation will occur by hand or using light construction equipment such as backhoes. If clearing and grubbing occurs between February 1 and August 31, a qualified biologist(s) will survey for nesting birds within the area(s) to be disturbed including a

perimeter buffer of 100 feet for passerines and 500 feet for raptors before clearing activities begin. All nest avoidance requirements of the Migratory Bird Treaty Act and California Fish and Game Code will be observed. All cleared vegetation will be removed from the project footprint to prevent attracting animals to the project site. The contractor will be responsible for obtaining all permits, licenses and environmental clearances for properly disposing of such materials. A Service-approved biologist will be present during all vegetation clearing and grubbing activities. Prior to vegetation removal, the Service-approved biologist will thoroughly inspect the area for California red-legged frogs and San Francisco garter snakes. If at any point California red-legged frogs or San Francisco garter snakes are discovered during these activities, the Service-approved biologist through the Resident Engineer or their designee will halt all work within 50 feet of the animal and implement the species observation and handling protocol outlined in the Terms and Conditions of this biological opinion. After project completion, all temporarily affected areas will be returned to original grade and contours to the maximum extent practicable, protected using appropriate erosion control methods, and revegetated with native species appropriate for the region and habitat communities on site.

7. **Reduce Spread of Invasive Species.** To reduce the spread of invasive nonnative plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans will comply with Executive Order 13112. This order is provided to prevent the introduction of invasive species and provide for their control in order to minimize the economic, ecological, and human health impacts. In the event that high- or medium-priority noxious weeds, as defined by the California Department of Food and Agriculture or the California Invasive Plant Council, are disturbed or removed during construction-related activities, the contractor will contain the plant material associated with these noxious weeds and dispose of it in a manner that will not promote the spread of the species. The contractor will be responsible for obtaining all permits, licenses and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance will be replanted with fast-growing native grasses or a native erosion control seed mixture. If seeding is not possible, the area should be covered to the extent practicable with heavy black plastic solarization material until the end of the project.

8. **Replant, Reseed, and Restore Disturbed Areas.** All slopes or unpaved areas affected by the project will be restored to natural conditions. Slopes and bare ground will be reseeded with native grasses and shrubs characteristic of the floristic region and native local habitats to stabilize soils and prevent erosion. Where disturbance includes the removal of trees or plants, native species will be replanted and maintained until they become established.

Proposed Compensation

To minimize the effects of harm on California red-legged frogs and San Francisco garter snakes resulting from 6.61 acres of permanent and 2.95 acres of temporary habitat loss, Caltrans proposes to preserve, enhance and manage in perpetuity a 5.14-acre parcel owned by the City of Pacifica and enhance a linear swath of habitat owned by Golden Gate National Recreation Area (GGNRA) comprising 5.46 acres extending from the aforementioned City owned parcel northward over the ridgeline saddle to the bowl area south of the recently created Mori Point enhancement ponds. Habitat enhancement would comprise the creation of depressions to collect water, and woody debris and rocks to provide moist covered areas for both species. These enhancements are intended to improve the quality of habitat and facilitate foraging, sheltering

and movement/dispersal of California red-legged frogs and San Francisco garter snakes from the Mori Point population to Calera Creek and the surrounding Pacific Quarry lands.

**Analytical Framework for Jeopardy Determination**

In accordance with policy and regulation, the jeopardy analysis in this biological opinion relies on four components: (1) *Status of the Species*; (2) *Environmental Baseline*, which evaluates the California red-legged frog and San Francisco garter snake range-wide conditions, the factors responsible for these conditions, and their survival and recovery needs; and evaluates the condition of these species in the action area, the factors responsible for these conditions, and the relationship of the action area to the survival and recovery of these species; (3) *Effects of the Action*, which determines the direct and indirect effects of the proposed Federal action and the effects of any interrelated or interdependent activities on these species; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the California red-legged frog and San Francisco garter snake.

In accordance with policy and regulation, this jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the California red-legged frog and San Francisco garter snake current status, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of this species in the wild.

The jeopardy analysis in this biological opinion places an emphasis on consideration of the range-wide survival and recovery of the California red-legged frog and San Francisco garter snake and the role of the action area in the survival and recovery of these species as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

**Action Area**

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the proposed action the Service considers the action area, comprising 83.80 acres, to encompass the project footprint and undeveloped areas extending 500 feet west and 300 feet east of the SR-1 based on the type of work to be conducted; direct, indirect and cumulative effects to the California red-legged frog and San Francisco garter snake; and habitat suitability along the project alignment. The action area extends approximately 1.3 miles from PM 41.7 to 43.0 along SR-1. Habitat within the action area is comprised of non-native annual grassland, northern coastal scrub, shining willow riparian, seasonal wetland, perennial aquatic, ruderal and landscaped vegetation communities. Hydrologic features within the action area include Calera Creek, seasonal roadside drainage ditches, two water treatment ponds located between Calera Creek and the Pacifica Wastewater Treatment Plant, and seasonal wetlands perched on the man-made fill embankment adjacent to the water treatment ponds.

**Status of the Species and Environmental Baseline**

California Red-legged Frog

**Listing Status:** The California red-legged frog was listed as a threatened species on May 23, 1996 (61 FR 25813) (Service 1996). Critical habitat was designated for this species on April 13, 2006 (71 FR 19244) (Service 2006a) and revisions to the critical habitat designation were published on March 17, 2010 (75 FR 12816) (Service 2010). At this time, the Service

recognized the taxonomic change from *Rana aurora draytonii* to *Rana draytonii* (Shaffer *et al.* 2010). A Recovery Plan was published for the California red-legged frog on September 12, 2002 (Service 2002).

**Description:** The California red-legged frog is the largest native frog in the western United States (Wright and Wright 1949), ranging from 1.5 to 5.1 inches in length (Stebbins 2003). The abdomen and hind legs of adults are largely red, while the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background color. Dorsal spots usually have light centers (Stebbins 2003), and dorsolateral folds are prominent on the back. Larvae (tadpoles) range from 0.6 to 3.1 inches in length, and the background color of the body is dark brown and yellow with darker spots (Storer 1925).

**Distribution:** The historic range of the California red-legged frog extended from the vicinity of Elk Creek in Mendocino County, California, along the coast inland to the vicinity of Redding in Shasta County, California, and southward to northwestern Baja California, Mexico (Fellers 2005; Jennings and Hayes 1985; Hayes and Krempels 1986). The species was historically documented in 46 counties but the taxa now remains in 238 streams or drainages within 23 counties, representing a loss of 70 percent of its former range (Service 2002). California red-legged frogs are still locally abundant within portions of the San Francisco Bay Area and the Central California Coast. Isolated populations have been documented in the Sierra Nevada, northern Coast, and northern Transverse Ranges. The species is believed to be extirpated from the southern Transverse and Peninsular ranges, but is still present in Baja California, Mexico (CDFG 2011).

**Status and Natural History:** California red-legged frogs predominately inhabit permanent water sources such as streams, lakes, marshes, natural and manmade ponds, and ephemeral drainages in valley bottoms and foothills up to 4,921 feet in elevation (Jennings and Hayes 1994, Bulger *et al.* 2003, Stebbins 2003). However, they also inhabit ephemeral creeks, drainages and ponds with minimal riparian and emergent vegetation. California red-legged frogs breed from November to April, although earlier breeding records have been reported in southern localities. Breeding generally occurs in still or slow-moving water often associated with emergent vegetation, such as cattails, tules or overhanging willows (Storer 1925, Hayes and Jennings 1988). Female frogs deposit egg masses on emergent vegetation so that the egg mass floats on or near the surface of the water (Hayes and Miyamoto 1984).

Habitat includes nearly any area within 1-2 miles of a breeding site that stays moist and cool through the summer including vegetated areas with coyote brush, California blackberry thickets, and root masses associated with willow and California bay trees (Fellers 2005). Sheltering habitat for California red-legged frogs potentially includes all aquatic, riparian, and upland areas within the range of the species and includes any landscape feature that provides cover, such as animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. Agricultural features such as drains, watering troughs, spring boxes, abandoned sheds, or hay stacks may also be used. Incised stream channels with portions narrower and depths greater than 18 inches also may provide important summer sheltering habitat. Accessibility to sheltering habitat is essential for the survival of California red-legged frogs within a watershed, and can be a factor limiting frog population numbers and survival.

California red-legged frogs do not have a distinct breeding migration (Fellers 2005). Adults are often associated with permanent bodies of water. Some individuals remain at breeding sites year-round, while others disperse to neighboring water features. Dispersal distances are typically

less than 0.5-mile, with a few individuals moving up to 1-2 miles (Fellers 2005). Movements are typically along riparian corridors, but some individuals, especially on rainy nights, move directly from one site to another through normally inhospitable habitats, such as heavily grazed pastures or oak-grassland savannas (Fellers 2005).

In a study of California red-legged frog terrestrial activity in a mesic area of the Santa Cruz Mountains, Bulger *et al.* (2003) categorized terrestrial use as migratory and non-migratory. The latter occurred from one to several days and was associated with precipitation events. Migratory movements were characterized as the movement between aquatic sites and were most often associated with breeding activities. Bulger *et al.* (2003) reported that non-migrating frogs typically stayed within 200 feet of aquatic habitat 90 percent of the time and were most often associated with dense vegetative cover, i.e., California blackberry, poison oak and coyote brush. Dispersing frogs in northern Santa Cruz County traveled distances from 0.25-mile to more than 2 miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003).

In a study of California red-legged frog terrestrial activity in a xeric environment in eastern Contra Costa County, Tatarian (2008) noted that a 57 percent majority of frogs fitted with radio transmitters in the Round Valley study area stayed at their breeding pools, whereas 43 percent moved into adjacent upland habitat or to other aquatic sites. This study reported a peak seasonal terrestrial movement occurring in the fall months associated with the first 0.2-inch of precipitation and tapering off into spring. Upland movement activities ranged from 3 to 233 feet, averaging 80 feet, and were associated with a variety of refugia including grass thatch, crevices, cow hoof prints, ground squirrel burrows at the base of trees or rocks, logs, and under man-made structures; others were associated with upland sites lacking refugia (Tatarian 2008). The majority of terrestrial movements lasted from 1 to 4 days; however, one adult female was reported to remain in upland habitat for 50 days (Tatarian 2008). Upland refugia closer to aquatic sites were used more often and were more commonly associated with areas exhibiting higher object cover, e.g., woody debris, rocks, and vegetative cover. Subterranean cover was not significantly different between occupied upland habitat and non-occupied upland habitat.

California red-legged frogs are often prolific breeders, laying their eggs during or shortly after large rainfall events in late winter and early spring (Hayes and Miyamoto 1984). Egg masses containing 2,000 to 5,000 eggs are attached to vegetation below the surface and hatch after 6 to 14 days (Storer 1925, Jennings and Hayes 1994). In coastal lagoons, the most significant mortality factor in the pre-hatching stage is water salinity (Jennings *et al.* 1992). Eggs exposed to salinity levels greater than 4.5 parts per thousand resulted in 100 percent mortality (Jennings and Hayes 1990). Increased siltation during the breeding season can cause asphyxiation of eggs and small larvae. Larvae undergo metamorphosis 3½ to 7 months following hatching and reach sexual maturity 2 to 3 years of age (Storer 1925; Wright and Wright 1949; Jennings and Hayes 1985, 1990, 1994). Of the various life stages, larvae probably experience the highest mortality rates, with less than 1 percent of eggs laid reaching metamorphosis (Jennings *et al.* 1992). California red-legged frogs may live 8 to 10 years (Jennings *et al.* 1992). Populations can fluctuate from year to year; favorable conditions allow the species to have extremely high rates of reproduction and thus produce large numbers of dispersing young and a concomitant increase in the number of occupied sites. In contrast, the animal may temporarily disappear from an area when conditions are stressful (e.g., during periods of drought, disease, etc.).

The diet of California red-legged frogs is highly variable; changing with the life history stage. The diet of the larval stage has been the least studied and is thought to be similar to that of other ranid frogs, which feed on algae, diatoms, and detritus (Fellers 2005; Kupferberg 1996a, 1996b,

1997). Hayes and Tennant (1985) analyzed the diets of California red-legged frogs from Cañada de la Gaviota in Santa Barbara County during the winter of 1981 and found invertebrates (comprising 42 taxa) to be the most common prey item consumed; however, they speculated that this was opportunistic and varied based on prey availability. They ascertained that larger frogs consumed larger prey and were recorded to have preyed on Pacific chorus frog, three-spined stickleback and, to a limited extent, California mice, which were abundant at the study site (Hayes and Tennant 1985, Fellers 2005). Although larger vertebrate prey was consumed less frequently, it represented over half of the prey mass eaten by larger frogs suggesting that such prey may play an energetically important role in their diets (Hayes and Tennant 1985). Juvenile and subadult/adult frogs varied in their feeding activity periods; juveniles fed for longer periods throughout the day and night, while subadult/adults fed nocturnally (Hayes and Tennant 1985). Juveniles were significantly less successful at capturing prey and all life history stages exhibited poor prey discrimination, feeding on several inanimate objects that moved through their field of view (Hayes and Tennant 1985).

**Recovery Plan:** The Recovery Plan for the California red-legged frog identifies eight recovery units (Service 2002). The establishment of these recovery units is based on the determination that various regional areas of the species' range are essential to its survival and recovery. These recovery units are delineated by major watershed boundaries as defined by U.S. Geological Survey hydrologic units and the limits of its range. The goal of the recovery plan is to protect the long-term viability of all extant populations within each recovery unit. Within each recovery unit, core areas have been delineated and represent contiguous areas of moderate to high California red-legged frog densities that are relatively free of exotic species such as bullfrogs. The goal of designating core areas is to protect metapopulations. Thus when combined with suitable dispersal habitat, will allow for the long term viability within existing populations. This management strategy identified within the Recovery Plan will allow for the recolonization of habitats within and adjacent to core areas that are naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of California red-legged frogs.

**Threats:** Habitat loss, non-native species introduction, and urban encroachment are the primary factors that have adversely affected the California red-legged frog throughout its range. Several researchers in central California have noted the decline and eventual local disappearance of California and northern red-legged frogs in systems supporting bullfrogs (Jennings and Hayes 1990; Twedt 1993), red swamp crayfish, signal crayfish, and several species of warm water fish including sunfish, goldfish, common carp, and mosquitofish (Moyle 1976; Barry 1992; Hunt 1993; Fisher and Schaffer 1996). This has been attributed to predation, competition, and reproduction interference. Twedt (1993) documented bullfrog predation of juvenile northern red-legged frogs, and suggested that bullfrogs could prey on subadult California red-legged frogs as well. Bullfrogs may also have a competitive advantage over California red-legged frogs. For instance, bullfrogs are larger and possess more generalized food habits (Bury and Whelan 1984). In addition, bullfrogs have an extended breeding season (Storer 1933) during which an individual female can produce as many as 20,000 eggs (Emlen 1977). Furthermore, bullfrog larvae are unpalatable to predatory fish (Kruse and Francis 1977). Bullfrogs also interfere with California red-legged frog reproduction by eating adult male California red-legged frogs. Both California and northern red-legged frogs have been observed in amplexus (reproductive mounting) with both male and female bullfrogs (Jennings and Hayes 1990; Twedt 1993; Jennings 1993). Thus bullfrogs are able to prey upon and out-compete California red-legged frogs, especially in sub-optimal habitat.

The urbanization of land within and adjacent to California red-legged frog habitat has also affected the threatened amphibian. These declines are attributed to channelization of riparian

areas, enclosure of the channels by urban development that blocks dispersal, and the introduction of predatory fishes and bullfrogs. Diseases may also pose a significant threat, although the specific effects of disease on the California red-legged frog are not known. Pathogens are suspected of causing global amphibian declines (Davidson et al. 2003). Chytridiomycosis and ranaviruses are a potential threat because these diseases have been found to adversely affect other amphibians, including the listed species (Davidson et al. 2003; Lips et al. 2006). Mao *et al.* (1999 cited in Fellers 2005) reported northern red-legged frogs infected with an iridovirus, which was also presented in sympatric threespine sticklebacks in northwestern California. Non-native species, such as bullfrogs and non-native tiger salamanders that live within the range of the California red-legged frog have been identified as potential carriers of these diseases (Garner *et al.* 2006). Humans can facilitate the spread of disease by encouraging the further introduction of non-native carriers and by acting as carriers themselves (i.e., contaminated boots, waders or fishing equipment). Human activities can also introduce stress by other means, such as habitat fragmentation, that results in the listed species being more susceptible to the effects of disease.

Negative effects to wildlife populations from roads and pavement may extend some distance from the actual road. The phenomenon can result from vehicle-related mortality, habitat degradation, noise and light pollution, and invasive exotic species. Forman and Deblinger (1998) described the area affected as the "road effect" zone. One study along a 4-lane road in Massachusetts determined that this zone extended for an average of 980 feet to either side of the road for an average total zone width of approximately 1,970 feet. However, in places they detected an effect greater than 0.6-mile from the road. The road effect zone can also be subtle. Van der Zandt *et al.* (1980) reported that lapwings and black-tailed godwits feeding at 1,575 to 6,560 feet from roads were disturbed by passing vehicles. The heart rate, metabolic rate and energy expenditure of female bighorn sheep increases near roads (MacArthur *et al.* 1979). Trombulak and Frissell (2000) described another type of "road-zone" effect due to contaminants. Heavy metal concentrations from vehicle exhaust were greatest within 66 feet of roads and elevated levels of metals in soil and plants were detected at 660 feet of roads. The "road-zone" varies with habitat type and traffic volume. Based on responses by birds, Forman (2000) estimated the road-zone along primary roads of 1,000 feet in woodlands, 1,197 feet in grasslands, and 2,657 feet in natural lands near urban areas. Along secondary roads with lower traffic volumes, the effect zone was 656 feet. The road-zone with regard to California red-legged frogs has not been adequately investigated.

The necessity of moving between multiple habitats and breeding ponds means that many amphibian species, such as the California red-legged frog are especially vulnerable to roads and well-used large paved areas in the landscape. Van Gelder (1973) and Cooke (1995) have examined the effect of roads on amphibians and found that because of their activity patterns, population structure, and preferred habitats, aquatic breeding amphibians are more vulnerable to traffic mortality than some other species. High-volume highways pose a nearly impenetrable barrier to amphibians and result in mortality to individual animals as well as significantly fragmenting habitat. Hels and Buchwald (2001) found that mortality rates for anurans on high traffic roads are higher than on low traffic roads. Vos and Chardon (1998) found a significant negative effect of road density on the occupation probability of ponds by the moor frog (*Rana arvalis*) in the Netherlands. In addition, incidences of very large numbers of road-killed frogs are well documented (Ashley and Robinson 1996), and studies have shown strong population level effects of traffic density (Carr and Fahrig 2001) and high traffic roads on these amphibians (Van Gelder 1973; Vos and Chardon 1998). Most studies regularly count road mortalities from slow moving vehicles (Hansen 1982; Rosen and Lowe 1994; Drews 1995; Mallick *et al.* 1998) or by foot (Munguira and Thomas 1992). These studies assume that every victim is observed, which may be true for large conspicuous mammals, but may be an incorrect assumption for small

animals, such as the California red-legged frog. Amphibians appear especially vulnerable to traffic mortality because they readily attempt to cross roads, are small and slow-moving, and thus are not easily avoided by drivers (Carr and Fahrig 2001).

San Francisco Garter Snake

Refer to the five-year review for the species status (Service 2006b).

**Environmental Baseline**

California Red-Legged Frog

The action area is located within the range of the California red-legged frog and lies within the South San Francisco Bay Core Area (Unit 18) and Central Coast Recovery Unit (Service 2002). The Recovery Plan for the California red-legged frog (Service 2002) identifies the conservation needs for this unit to include: "*protecting existing populations, controlling non-native predators, increasing connectivity between populations, reducing erosion, implementing guidelines for recreation activities to reduce impacts, implementing forest practice guidelines, and reducing impacts of urbanization*". The action area comprises a mosaic of urbanized lands and undeveloped perennial aquatic, seasonal wetland, shining willow riparian, northern coastal scrub, non-native annual grassland, landscaped and ruderal habitat. The predominate hydrologic feature within the action area is Calera Creek, which is conveyed under SR-1 north of Reina Del Mar Avenue through a concrete box culvert and continues westward to the Pacific Ocean. Two water treatment ponds are located between SR-1 and the Pacifica Wastewater Treatment Plant. These ponds provide deep, open water habitat, and are entirely enclosed by a stand of willows and dense understory. Surveys conducted by H.T. Harvey & Associates reported California red-legged frogs to be abundant within these ponds despite densely overgrown bank vegetation that may otherwise limit the species' access to the pond (Caltrans 2010). Adjacent to these ponds and east of the dirt access road is a small seasonal wetland located atop of an embankment adjacent to SR-1. This wetland does not provide breeding or rearing habitat for California red-legged frogs due to its shallow water depth, but may function as good foraging habitat. This wetland may also provide breeding and rearing habitat for Pacific chorus frogs, a primary prey species of California red-legged frogs. As a condition of the Pacifica Wastewater Treatment Plant (Service File No.: 1-1-96-F-163), the City of Pacifica was required to construct two off-channel "snake ponds" with the goal of sustaining a breeding population of California red-legged frogs and San Francisco garter snakes, realign a reach of highly degraded Calera Creek, and create 17 acres of riparian habitat. A drainage ditch parallels southbound SR-1 from San Marlo Way northeast toward Reina Del Mar Avenue. This seasonal wetland is fed by several small seeps and two stormwater culverts and supports a linear stand of lollypop and Monterey cypress trees (Caltrans 2010).

The majority of the action area, i.e. 75.65 acres, provides suitable habitat for California red-legged frogs based on survey results conducted at Mori Point (GGNRA), Pacific Quarry and City of Pacifica property, and the presence of breeding, foraging, sheltering and dispersal habitat. Numerous surveys have been conducted within and adjacent to the action area documenting presence of California red-legged frog from all life history stages. In 2002, H.T. Harvey & Associates observed over 30 California red-legged frog metamorphs within the drainage channel immediately adjacent to southbound SR-1 (Caltrans 2010). Additional surveys performed by H.T. Harvey & Associates in support of the Biological Assessment (Caltrans 2010) documented two subadults in 2006 and an individual of an unreported life history stage in 2008 in this same roadside drainage. A total of 66 adult and juvenile California red-legged frogs were captured during San Francisco garter snake trapping surveys conducted by Swaim Biological, Inc. (2007)

within open grasslands and along Calera Creek. Swaim Biological, Inc. (2007) reported California red-legged frogs breeding in the snake ponds as well as being the most abundant amphibian species captured within the Pacific Quarry and City of Pacifica survey area. California red-legged frogs of all life history stages have been reported from numerous locations along Calera Creek both upstream and downstream of the action area (CDFG 2011).

The Biological Assessment (Caltrans 2010) reported that California red-legged frogs have been observed from most wetland and upland habitat types within the Pacific Quarry site. Feral cats and cans of cat food were observed within non-native woodland habitat during surveys conducted by H.T. Harvey & Associates in support of the Biological Assessment suggesting that local residents are sustaining and potentially propagating a feral cat population that may threaten California red-legged frogs and other listed and common wildlife species within the action area (Caltrans 2010). Most other undeveloped areas within the action area comprise a mixture of non-native annual grassland, northern coastal scrub and landscaped habitats which may function as dispersal, movement, sheltering and foraging habitat for California red-legged frogs. However, some of these habitat areas may be less accessible to California red-legged frogs due to the existing median barrier on SR-1, high traffic volume on SR-1, and urban development fragmenting areas of suitable habitat. A single dead California red-legged frog was observed on the roadway near the intersection of SR-1 and Reina Del Mar Avenue during a site visit by H.T. Harvey & Associates in 2005 (Caltrans 2010) suggesting that California red-legged frogs are adversely affected by traffic along SR-1. However, the extent to which this threatens the local California red-legged frog population is unknown. The median buffer, high traffic volumes along SR-1 and adjoining arteries, and limited culverts under SR-1 may significantly restrict east-west movement or dispersal. The concrete box culvert that conveys Calera Creek under SR-1 extends approximately 470 feet and includes an elevation change by means of a 5 percent slope along the eastern half. Due to its length and design, California red-legged frogs may not successfully use this as a means to cross SR-1. However, the successful passage of a few breeding age adults throughout the course of a breeding season or dispersing juveniles following metamorphosis may be sufficient to sustain a viable population along Calera Creek east of SR-1. Two California red-legged frog occurrences have been reported from Calera Creek east of SR-1; both reports were documented in 2008 and consisted of a single adult individual near the intersection of Berendos Avenue and Calaveras Avenue (CDFG 2011). California red-legged frogs within this portion of Calera Creek may have reached this location from the population west of SR-1 or from the San Andreas Lake population further to the east. In either case, these observations indicate that California red-legged frogs inhabit lands east of SR-1 and may therefore occur within all areas of suitable habitat on either side of SR-1.

Based on the numerous reported occurrences within the action area, presence of suitable breeding, non-breeding aquatic, upland and dispersal habitat within the action area, and connectivity to known populations, the Service has determined there is a reasonable probability for California red-legged frogs to inhabit or disperse through the action area.

San Francisco Garter Snake

The action area is located within the range of the Mori Point/Calera Creek San Francisco garter snake population and is set within a mosaic of urbanized lands and undeveloped perennial aquatic, seasonal wetland, shining willow riparian, northern coastal scrub, non-native annual grassland, landscaped and ruderal habitat. Hydrologic features within the action area include Calera Creek, two water treatment ponds located between Calera Creek and the Pacifica Wastewater Treatment Plant, a seasonal wetland immediately east of the water treatment pond, and a drainage ditch that parallels southbound SR-1 from San Marlo Way northeast toward Reina

Del Mar Avenue (Caltrans 2010). The majority of the action area, i.e. 75.65 acres, provides suitable habitat for the San Francisco garter snake based on connectivity to the Mori Point population; availability of foraging, refugia and dispersal habitat features; abundance of prey species; and trapping results and reported sightings. The observation of over 30 California red-legged frog metamorphs (H.T. Harvey & Associates 2002) within the drainage ditch located immediately adjacent to southbound SR-1 and the 2006 trapping results (Swaim Biological, Inc. 2007) suggests that relatively low quality and moderately disturbed aquatic features within the action area are productive amphibian and reptiles habitat; thereby suitable San Francisco garter snake habitat.

Occurrences of San Francisco garter snakes (two adult females) have been reported from the former quarry ponds adjacent to the former Calera Creek alignment approximately 650 feet northwest of the existing Caltrans right-of-way, which date back to a 1989 trapping study conducted by McGinnis (1990). These ponds were back-filled and the portions of the adjacent Calera Creek riparian corridor were bulldozed by the former quarry owner in August 1989 following their discovery. Follow-up trapping studies in late 1989 did not report San Francisco garter snakes in the undisturbed portion of the Calera Creek riparian corridor or adjacent upland habitat west of SR-1 following the habitat alteration. This unauthorized event may have caused the extirpation of the San Francisco garter snake from the Pacific Quarry site. San Francisco garter snakes continue to persist in the wetlands and adjacent upland areas northwest of the action area comprising Laguna Salada, Horse Stable Pond, Sanchez Creek and the Mori Point pond enhancement sites west of Seaside Drive. The Service considers this a source population for re-establishing a population within the Pacific Quarry, City of Pacifica and GGNRA lands west of SR-1 within the action area. Trapping studies conducted by Swaim Biological, Inc. (2006) in 2004 and 2006 at Mori Point documented seven and 13 individuals, respectively. However, trapping studies conducted at the 85-acre Pacific Quarry site and Calera Creek riparian corridor west of SR-1 conducted concurrently in 2006 resulted in no captures or visual observations of San Francisco garter snakes (Swaim Biological, Inc. 2007). This study did document an abundance of primary San Francisco garter snake prey species including California red-legged frogs, Pacific chorus frogs, arboreal salamanders, yellow-eyed salamanders and California slender salamanders. Other snake species captured within the study area, including western yellow-bellied racer, Pacific gopher snake, and both juvenile and adult coast garter snake, suggests that suitable habitat and prey base exist within the action area to support all life history stages of the San Francisco garter snake. In April, 2008, an adult San Francisco garter snake was observed on the paved pathway paralleling Calera Creek immediately south of the Pacifica Wastewater Treatment Plant (CDFG 2011). The negative trap results and individual sighting may reflect low abundance and density rather than their absence within the action area.

Based on reported occurrences within the action area, connectivity to occupied habitats at Mori Point, and the presence of breeding, foraging, sheltering and dispersal habitat, the Service has determined there is a reasonable probability for San Francisco garter snakes to inhabit or disperse through the action area.

**Effects of the Action**

Implementation of the proposed action will likely adversely affect the California red-legged frog and San Francisco garter snake through harassment, injury, mortality and habitat loss/degradation primarily within the Calera Creek riparian corridor; seasonal wetlands adjacent to the Pacifica Wastewater Treatment Plant north of Reina Del Mar Avenue; and shining willow riparian, northern coastal scrub, non-native annual grassland and non-native woodland/landscaped vegetation communities encompassing the roadside drainage channel west

of southbound SR-1 from Reina Del Mar Avenue to San Marlo Way. The proposed action will result in the temporary loss and disturbance of 2.95 acres of suitable habitat for the California red-legged frog and San Francisco garter snake. This habitat would become unavailable to these species during the construction phase and could result in injury or mortality of individuals, loss of foraging or movement corridors, altered behavioral displays (e.g., flushing from cover during vegetation clearing or ground disturbing activities, decreased foraging success, increased risk of predation, etc.), and displacement from or avoidance of habitat features within the action area. The proposed action will result in the permanent loss of 6.61 acres of suitable California red-legged frog and San Francisco garter snake habitat comprising seasonal wetlands (i.e., portions of the drainage channel adjacent to southbound SR-1), northern coastal scrub, non-native annual grassland and non-native woodland/landscaped vegetation communities.

The Service is defining temporary and permanent effects as areas denuded, manipulated, or otherwise modified from their pre-project conditions in which one or more essential habitat components are removed as a result of the proposed action including pre- and post-construction activities and routine maintenance. Temporary effects comprise areas that are fully restored to baseline habitat values or better within one year following initial disturbance. Permanent effects are not temporally limited and include all effects not fulfilling the criteria for temporary effects. Areas subject to ongoing operations and maintenance also are considered permanent.

During the informal consultation process, Caltrans met with resource agencies to discuss build options and subsequently modified the project design to minimize its effects on the California red-legged frog and San Francisco garter snake. These design modifications included: 1) reducing the lateral project footprint by creating 2:1 embankments, incorporating the use of retaining walls, and downsizing the right-of-way acquisition to avoid sensitive habitats including the seasonal wetlands between the Pacific Wastewater Treatment Plant and SR-1, and the drainage channel along southbound SR-1 between Reina Del Mar Avenue and San Marlo Way; 2) avoiding the Calera Creek and the concrete box culvert under SR-1; 3) constructing a bridge for southbound lanes to cantilever over the existing culvert outflow ditch to avoid aquatic habitat; 4) constructing a permanent movement barrier to minimize the harassment, injury and mortality caused by vehicle strikes by restricting California red-legged frog and San Francisco garter snake movement onto SR-1; and 5) constructing permanent barriers specifically designed to prevent California red-legged frogs and San Francisco garter snakes from entering the bio-filtration swales and thereby becoming injured or killed during routine maintenance activities associated with the swales.

Various other activities associated with the proposed action may also adversely affect the California red-legged frog and San Francisco garter snake. If unrestricted, project personnel traveling to the action area from other project sites may introduce or spread non-native invasive plant species, which may further diminish vegetative cover and habitat quality used by California red-legged frogs and San Francisco garter snakes. Biologists or environmental monitors may transmit diseases by using contaminated equipment or clothing. The probability of a disease being introduced into a new area is greater today than in the past due to the increasing occurrences of disease throughout amphibian populations in California and the United States. It is possible that chytridiomycosis, caused by chytrid fungus (*Batrachochytrium dendrobatidis*), may exacerbate the effects of other diseases on amphibians or increase the sensitivity of the amphibian to environmental changes (e.g., water pH) that reduce normal immune response capabilities (Bosch et al. 2001, Weldon et al. 2004). In addition, injury or mortality could result from improper handling, containment, or transport of California red-legged frogs or San Francisco garter snakes, or releasing individuals into unsuitable habitat if frogs or snakes are captured and relocated. Caltrans proposes to minimize these risks by implementing proper

cleaning and decontamination procedures prior to bringing equipment and gear to the project site and prior to and following aquatic surveys and handling of listed species. Caltrans proposes to minimize these potential effects caused by improper handling, containment, or transport by using qualified Service-approved biologists, limiting the duration of handling, and relocating individuals to suitable nearby habitat in accordance with Service and CDFG guidance.

Individual California red-legged frogs and San Francisco garter snakes could be crushed or injured by equipment or construction vehicles. Construction noise, dust, vibration, and increased human activity during the construction phase of the proposed action may interfere with normal behaviors, e.g. feeding, sheltering, daily/seasonal movement and/or dispersal, and other essential behaviors, resulting in avoidance of areas with suitable habitat but intolerable levels of disturbance. Such harassment could cause individuals to attempt overland movements in an effort to reach alternative sheltering or foraging habitats. These individuals could be harassed, injured, or killed by pedestrians, construction equipment and vehicles, or predators during overland movements within the action area in an attempt to flee the action area. An accidental release of soil, sediment, oil, fuel, or other debris could affect water quality downstream of the proposed action area. If such substances were to enter aquatic features adjacent to the proposed work areas, individuals could be injured or killed due to a reduction of water quality or habitat degradation. Trash left during or after construction could attract predators to the action area, subsequently harassing or preying on individual frogs or snakes. For example, raccoons, crows and ravens are attracted to trash and opportunistically prey on amphibians and reptiles.

Caltrans proposes to minimize these effects by implementing standard Caltrans BMPs and SWPPP, locating construction staging, storage and parking areas outside of sensitive habitats; clearly marking construction work boundaries with high-visibility ESA fencing; installing WEF fencing to deter California red-legged frogs and San Francisco garter snakes from wandering onto the construction site; performing worker environmental training for all construction personnel; conducting preconstruction surveys and environmental monitoring during revegetation removal and construction; minimizing the spread of invasive species; and revegetating all unpaved areas disturbed by project activities with native vegetation characteristic of the habitats within the action area. The presence of Service-approved biologists and biological monitors will reduce the likelihood of take in the form of injury or mortality.

The Service has determined that the permanent and temporary loss and/or degradation of California red-legged frog and San Francisco garter snake habitat is likely to result in take of individuals within the action area. Caltrans has proposed a habitat compensation measure to minimize the effects of harm on California red-legged frogs and San Francisco garter snakes by preserving 5.14 acres in a conservation easement and enhancing 5.46 acres of habitat adjacent to the action area. This land will be protected and managed for the conservation of California red-legged frogs and San Francisco garter snakes in perpetuity. The protected lands will provide habitat for breeding, feeding, sheltering and movement/dispersal commensurate with or better than habitat lost as a result of the proposed action. These lands will help maintain the geographic distribution of the species and will contribute to the recovery of the species by increasing the amount of habitat that is secure from development threats and the other factors threatening these species that can be minimized by habitat protection and management.

**Cumulative Effects**

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future

Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

From 1995 to 2020, the human population is projected to increase by 18 percent for the San Francisco Bay hydrologic region; while at the same time agricultural crop land use in the region is projected to remain around 65,000 acres (California Department of Water Resources 1998). According to the California Department of Forestry, from 2000 to 2020, the human population in the Bay Area region is expected to grow by 29 percent (5.3 million people to 6.8 million people), and by 60 percent from 2000 to 2040 (5.3 million to 8.4 million people) (California Department of Finance 1988). There will likely be many other development projects that occur during this timeframe due to increases in human population growth that will continue to imperil the California red-legged frog and San Francisco garter snake. However, the Service is not aware of any projects currently planned for the area surrounding the proposed action. However, numerous activities within this urbanized setting that could negatively affect these species near the action area as a result of private or public sector actions that may occur without consultation with or authorization by the Service.

Additional threats resulting from urbanization include contamination, poisoning, increased predation, and competition from non-native species associated with human development. Small private actions that may affect listed species, such as conversion of land, ground squirrel reduction efforts, mosquito control, and residential development may occur without consultation with or authorization by the Service or CDFG pursuant to their respective Endangered Species Acts. People exploring creeks can harass, collect, and hunt the San Francisco garter snake, which may be killed in the mistaken belief it is a venomous species. Both feral and domestic cats (*Felis catus*) and dogs (*Canis domesticus*) prey on aquatic and riparian species such as the California red-legged frog and San Francisco garter snake. Non-native species that prey upon, or compete with the California red-legged frog or San Francisco garter snake continue to be released into the environment. The release of potentially harmful animals into listed species habitat is likely to increase with a growing population within the San Francisco Bay Area. Bullfrogs, goldfish, mosquito fish, and warm water game fish species are all expected to continue to persist in the wild and degrade the quality of California red-legged frog and San Francisco garter snake habitat. Introduced animals may also act as disease vectors and affect these listed species.

Many flood control projects replace natural streams with engineered channels and isolate California red-legged frogs and San Francisco garter snakes from their natural floodplains, disrupting natural hydrologic processes and degrading stream habitat. Flood channel maintenance often requires the removal of emergent aquatic and riparian vegetation, making these channels less suitable for these species. The application of pesticides, herbicides, or fertilizers could degrade surface water quality in wetlands, including creeks and streams. Water quality may become impaired when pesticides/fertilizers or sediment enters the action area from the surrounding residential area.

The global average temperature has risen by approximately 0.6 degrees Celsius during the 20th Century (International Panel on Climate Change 2001, 2007; Adger et al 2007). There is an international scientific consensus that most of the warming observed has been caused by human activities (International Panel on Climate Change 2001, 2007; Adger *et al.* 2007), and that it is "very likely" that it is largely due to manmade emissions of carbon dioxide and other greenhouse gases (Adger *et al.* 2007). Ongoing climate change (Anonymous 2007; Inkley *et al.* 2004; Adger *et al.* 2007; Kanter 2007) likely imperils several listed species including the California red-legged frog, San Francisco garter snake and the resources necessary for their survival. Since

climate change threatens to disrupt annual weather patterns, it may result in a loss of their habitats and/or prey, and/or increased numbers of their predators, parasites, and diseases. Where populations are isolated, a changing climate may result in local extinction, with range shifts precluded by lack of habitat.

**Conclusion**

After reviewing the current status of the California red-legged frog and San Francisco garter snake; the environmental baseline for the action area; the effects of the proposed SR-1 Calera Parkway Improvement Project and the cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize their continued existence. This determination is based on our opinion that the magnitude of the effects of this action does not appreciably reduce the likelihood of both the survival and recovery of these species in the wild.

## INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by Caltrans so that they become binding conditions of any grant or permit issued to Caltrans, as appropriate, in order for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this incidental take statement. If Caltrans (1) fails to require its contractors to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

**Amount or Extent of Take**

The Service anticipates that incidental take of California red-legged frogs and San Francisco garter snakes will be difficult to detect due to their cryptic nature and wariness of humans. Losses of these species may also be difficult to quantify due to a paucity of baseline survey data and seasonal/annual fluctuations in their numbers due to environmental or human-caused disturbances. There is a risk of harm, harassment, injury and mortality as a result of the proposed construction activities, operations and maintenance of SR-1 and the bio-filtration swales, permanent and temporary habitat loss/degradation, and capture and relocation efforts; therefore, the Service is authorizing take incidental to the proposed action as (1) the injury and mortality of no more than one California red-legged frog and San Francisco garter snake of any life history stage; and (2) the capture, harm and harassment of all California red-legged frogs and

San Francisco garter snakes within the 83.80-acre action area. The Service anticipates that proposed action may result in take of neonate, juvenile, subadult and adult life history stages as a result of habitat loss/degradation, construction-related disturbance, or capture and relocation. Upon implementation of the following Reasonable and Prudent incidental take associated with the SR-1 Calera Parkway Improvement Project will become exempt from the prohibitions described under section 9 of the Act. No other forms of take are exempted under this opinion.

**Effect of the Take**

The Service has determined that this level of anticipated take is not likely to result in jeopardy to the California red-legged frog or San Francisco garter snake, and is not likely to jeopardize the continued existence of these species.

**Reasonable and Prudent Measure**

The following reasonable and prudent measure is necessary and appropriate to minimize the effect of the proposed action on the California red-legged frog and San Francisco garter snake:

1. Caltrans shall implement conservation measures as described in the *Description of the Proposed Action* of this biological opinion.
2. Caltrans shall ensure the effects to the California red-legged frog and San Francisco garter snake are minimized.
3. Caltrans shall ensure their compliance with this biological opinion.

**Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the Act, Caltrans shall ensure compliance with the following terms and conditions, which implement the reasonable and prudent measures described above.

1. The following Terms and Conditions implement Reasonable and Prudent Measure one (1):

    a. Caltrans shall require all contractors to comply with the Act in the performance of the action and shall perform the action as outlined in the *Description of the Proposed Action* of this biological opinion as provided by Caltrans in the Biological Assessment dated September and all supporting documentation submitted to the Service in support of the action.

    b. Caltrans shall include language in their contracts that expressly requires contractors and subcontractors to work within the boundaries of the project footprint identified in this biological opinion, including vehicle parking, vehicle parking, staging, batch plants, storage yards and access roads. Changes to the Project Description or performance of work outside the scope described in the *Description of the Proposed Action* of this biological opinion are subject to the requirements of reinitiation of formal consultation as described herein.

    c. Caltrans shall ensure the Resident Engineer or their designee shall have full authority to implement and enforce all Conservation Measures and Terms and Conditions of this biological opinion. The Resident Engineer or their designee shall maintain a copy of this biological opinion onsite whenever construction is in

progress. Their name(s) and telephone number(s) shall be provided to the Service at least thirty (30) calendar days prior to ground-breaking at the project.

2. The following Terms and Conditions implement Reasonable and Prudent Measure two (2):

   a. The compensation measures proposed by Caltrans to minimize the effects of harm on California red-legged frogs and San Francisco garter snakes shall comprise high quality breeding, foraging, sheltering, migration and/or dispersal habitat, facilitate San Francisco garter snake (re)colonization from source populations at Mori Point, and maintain established California red-legged frog populations within the action area. Caltrans shall comply with all applicable CDFG regulations pertaining to mitigation for species designated as fully protected and/or listed by the State. Compensation shall be implemented in accordance with the Selected Review Criteria for Section 7 Off-Site Compensation provided in Appendix A. If the proposed compensation scheme is not fully implemented, Caltrans shall provide an alternative compensation scheme to be reviewed and approved by the Service/CDFG.

   b. Caltrans shall submit the qualifications of the Service-approved biologist(s) to the Service for review and written approval at least thirty (30) calendar days prior to groundbreaking at the project site. The Service-approved biologist(s) shall keep a copy of this biological opinion in their possession when onsite. Through the Resident Engineer or their designee, the Service-approved biologist(s) shall be given the authority to communicate verbally by telephone, email or hardcopy with Caltrans personnel, contractors or any other person(s) at the project site or otherwise associated with the project. Through the Resident Engineer or their designee, the Service-approved biologist(s) shall have the authority to stop project activities if he/she determines any of the Conservation Measures or Terms and Conditions of this biological opinion is not being fulfilled. If the Service-approved biologist(s) exercises this authority, the Service shall be notified by telephone and email within 24 hours. The Service contact is Coast-Bay Branch Chief Endangered Species Program, Sacramento Fish and Wildlife Office at telephone (916) 414-6600.

   c. A Service-approved biologist shall be onsite during all activities that may result in take of California red-legged frogs or San Francisco garter snakes. Through communication with the Resident Engineer or their designee, the Service-approved biologist shall have the authority to stop work to avoid take of listed species and shall advise the Resident Engineer or designee on how to proceed accordingly. The Service-approved biologist shall conduct clearance surveys at the beginning of each day and regularly throughout the workday when construction activities are occurring that may result in take of California red-legged frogs or San Francisco garter snakes.

   d. Prior to the start of construction, Caltrans shall submit the WEF specifications and locations of installation to the Service for review and approval. The WEF shall remain in place throughout the duration of the project and shall be regularly inspected and fully maintained. Repairs to the WEF shall be made within 24 hours of discovery. Upon project completion the WEF shall be completely

removed, the area cleaned of debris and trash, and area returned to original condition or better.

e. Caltrans shall submit the design plans for the California red-legged frog and San Francisco garter snake barrier fencing around the bio-filtration swales to the Service for review and approval.

f. To prevent California red-legged frogs and San Francisco garter snakes from becoming entangled, trapped, injured or killed, erosion control materials that use plastic or synthetic mono-filament netting shall not be used within the action area. This includes products that use photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials include natural fibers such as jute, coconut, twine or other similar fibers preferably with a minimum matrix of 2 inches square or larger.

g. Preconstruction surveys shall be conducted by a Service-approved biologist immediately prior to the initiation of any ground disturbing activities that may result in take of California red-legged frogs or San Francisco garter snakes. All suitable aquatic and upland habitat including refugia habitat such as dense vegetation, small woody debris, refuse, burrows, etc., shall be thoroughly inspected. If a California red-legged frog or San Francisco garter snake is observed, the Service-approved biologist shall implement the species observation and handling protocol outlined below.

h. If a San Francisco garter snake is encountered in the action area, work activities within 50 feet of the individual(s) shall cease immediately and the Resident Engineer and Service-approved biologist shall be notified. All project personnel will be notified of the finding and at no time shall work occur within 50 feet of the San Francisco garter snake without a biological monitor present. San Francisco garter snakes observed within the action area should not be captured or handled without authorization from the Service/CDFG, and should be monitored until it leaves the action area on its own accord, unless the situation poses an imminent risk of injury or mortality to the individual(s). In which case Service/CDFG shall be contacted immediately to obtain authorization to capture and relocate the individual(s) to a suitable location outside of the Project footprint.

i. If a California red-legged frog is encountered in the action area, work activities within 50 feet of the individual(s) shall cease immediately and the Resident Engineer and Service-approved biologist shall be notified. Based on the professional judgment of the Service-approved biologist, if project activities can be conducted without harming or injuring the California red-legged frog, it may be left at the location of discovery and monitored by the Service-approved biologist. All project personnel will be notified of the finding and at no time shall work occur within 50 feet of the California red-legged frog without a biological monitor present. If it is determined by the Service-approved biologist that relocating the California red-legged frog is necessary, the following steps shall be followed:

    i. Prior to handling and relocation the Service-approved biologist shall take precautions to prevent introduction of amphibian diseases in accordance

with the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (Service 2005). Disinfecting equipment and clothing is especially important when biologists are coming to the action area to handle amphibians after working in other aquatic habitats.

ii. California red-legged frogs shall be captured by hand, dipnet or other Service-approved methodology; transported by hand, dipnet or temporary holding container; and released as soon as practicable the same day of capture. Handling of California red-legged frogs shall be minimized to the maximum extent practicable. Holding/transporting containers and dipnets shall be thoroughly cleaned, disinfected and rinsed with freshwater prior to use within the action area.

iii. California red-legged frogs shall be relocated to nearby suitable habitat outside of the work area and released in a safe area on the same side of SR-1 as discovered. The individual(s) shall be released within the Caltrans right-of-way only if suitable habitat exists and would not pose a risk to the animal's survival or well-being. Otherwise, California red-legged frogs shall be released at a location subject to the approval of the property owner. If suitable habitat cannot be identified, the Service shall be contacted to determine an acceptable alternative. If California red-legged frogs are relocated, the Service shall be notified within 48 hours of relocation.

j. Caltrans shall prepare and submit a revegetation plan to the Service for review and approval at least 6 months prior to the completion of the proposed action. The revegetation plan shall be implemented within 30 days following completion of the proposed action.

3. The following Terms and Conditions implement Reasonable and Prudent Measure three (3):

a. The Service-approved biologist(s) shall maintain monitoring records that include: (1) the beginning and ending time of each day's monitoring effort; (2) a statement identifying the listed species encountered, including the time and location of the observation; (3) the time the specimen was identified and by whom and its condition; and (4) a description of any actions taken. The Service-approved biologist shall maintain complete records in their possession while conducting monitoring activities and shall immediately surrender records to the Service, CDFG, and/or their designated agents upon request. All monitoring records shall be provided to the Service upon completion of the monitoring work.

b. If verbally requested through the Resident Engineer or their designee, before, during, or upon completion of ground breaking and construction activities, Caltrans shall ensure the Service and/or their designated agents can immediately and without delay, access and inspect the project site for compliance with the Project Description, Conservation Measures, and Terms and Conditions of this biological opinion.

**Reporting Requirements**

Proof of environmental training shall be provided to the Endangered Species Program, Sacramento Fish and Wildlife Office, 2800 Cottage Way, Room W-2605, Sacramento, California 95825-1846. Observations of California red-legged frogs or any listed or rare species should be reported to the California Natural Diversity Database (CNDDB) within thirty (30) calendar days of the observation.

Injured California red-legged frogs and San Francisco garter snakes must be cared for by a licensed veterinarian or other qualified person, such as the Service-approved biologist. Dead animals shall be placed in a zip-lock® plastic storage bag with a piece of paper indicating the date, time, location and name of the person who found it. The bag shall be placed in a freezer located in a secure location until instructions are received from the Service regarding the disposition of the specimen or until the Service takes custody of the specimen. The Service must be notified within 24 hours of the discovery of death or injury resulting from project-related activities or is observed at the project site. Notification shall include the date, time, and location of the incident or finding of a dead or injured animal clearly indicated on a USGS 7.5-minute quadrangle and other maps at a finer scale, as requested by the Service, and any other pertinent information. The Service contacts are Coast-Bay/Forest Foothills Division Chief, Endangered Species Program, Sacramento Fish and Wildlife Office at (916) 414-6600, and Resident Agent-in-Charge of the Service's Law Enforcement Division at (916) 414-6660.

Caltrans shall submit a post-construction compliance report prepared by the on-site biologist to the Sacramento Fish and Wildlife Office within sixty (60) calendar days of the date of the completion of construction activity. This report shall detail: (1) dates that construction occurred; (2) pertinent information concerning the success of the project in meeting compensation and other conservation measures; (3) an explanation of failure to meet such measures, if any; (4) known project effects on the California red-legged frog, if any; (5) incidental take of this species, if any; (6) documentation of employee/contractor environmental education; and (7) other pertinent information.

Caltrans shall report to the Service any information about take or suspected take of listed wildlife species not authorized by this biological opinion. Caltrans must notify the Service via electronic mail and telephone within twenty-four (24) hours of receiving such information. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and photographs of the specific animal. The individual animal shall be preserved, as stated above, and held in a secure location until instructions are received from the Service regarding the disposition of the specimen or the Service takes custody of the specimen.

## CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of listed species and critical habitat. Conservation recommendations are discretionary measures to further minimize the effects to listed species and critical habitat. They also serve as suggestions of how action agencies can assist species conservation in furtherance of their responsibilities under section 7(a)(1) of the Act, or recommend studies improving an understanding of a species' biology or ecology. Wherever possible, conservation recommendations should be tied to tasks identified in recovery plans. The Service is providing the following conservation recommendations:

1. Caltrans should assist the Service in implementing recovery actions identified in the Recovery Plan for the California Red-legged Frog (USFWS 2002).
2. Caltrans should assist the Service in implementing recovery actions identified in the Recovery Plan for the San Francisco Garter Snake (USFWS 1985).
3. Caltrans should consider participating in the planning for a regional habitat conservation plan for the California red-legged frog, and other listed and sensitive species.
4. Caltrans should consider establishing functioning preservation and creation conservation banking systems to further the conservation of the California red-legged frog, and other appropriate species. Such banking systems also could possibly be utilized for other required compensation (i.e., seasonal wetlands, riparian habitats, etc.) where appropriate.
5. Sightings of any listed or sensitive animal species should be reported to the CNDDB of the CDFG. A copy of the reporting form and a topographic map clearly marked with the location the animals were observed also should be provided to the Service.
6. Caltrans should incorporate culverts, tunnels, or bridges on highways and other roadways that allow safe passage by California red-legged frog, other listed animals, and wildlife.
7. Caltrans should include photographs, plans, and other information in their Biological Assessments if they incorporate "wildlife friendly" crossings into their projects.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed and/or proposed species or their habitats, the Service requests notification of the implementation of these recommendations.

## REINITIATION--CLOSING STATEMENT

This concludes formal consultation on the proposed SR-1/ Calera Parkway Improvement Project, San Mateo County, California. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion, including work outside of the project footprint analyzed in this opinion and including vehicle parking, staging, lay down areas, access roads, etc.; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion including use of vehicle parking, staging, lay down areas, access roads, etc.; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where take exceeds what was anticipated in this biological opinion, Caltrans will no longer be exempt from the prohibitions of section 9 until such time that Caltrans reinitiates formal consultation and consultation is completed.

If you have questions concerning this letter in reference to the proposed SR-1/Calera Parkway Improvement Project, San Mateo County, California, please contact Jerry Roe or Ryan Olah, Coast Bay/Forest Foothills Branch, at the letterhead address or at (916) 414-6600.

Sincerely,

Susan K. Moore
Field Supervisor

cc:
Suzanne DeLeon, California Department of Fish and Game, Yountville, California
Liam Davis, California Department of Fish and Game, Yountville, California
Madeline Cavalieri, California Coastal Commission, Santa Cruz, California

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## APPENDIX A

**Sacramento Fish and Wildlife Office**
**Selected Review Criteria for Section 7 Off-Site Compensation**

**Property Assurances and Conservation Easement**

- ☐ Title Report (preliminary at proposal, and Final Title Insurance at recordation), shall be no older than six months;
- ☐ Property Assessment and Warranty;
- ☐ Subordination Agreement **[if there is any outstanding debt on the property]**;
- ☐ Legal Description and Parcel Map;
- ☐ Conservation Easement (should use the current SFWO standardized CE template); or
- ☐ Non-Template Conservation Easement;

**Site Assessment and Development**

- ☐ Phase I Environmental Site Assessment;
- ☐ Restoration or Habitat Development Plan;
- ☐ Construction Security ***[if applicable]***;
- ☐ Performance Security ***[if applicable]***;

**Site Management**

- ☐ Interim Management Plan;
- ☐ Interim Management Security Analysis and Schedule;
- ☐ Long-Term Management Plan;
- ☐ Endowment Fund Analysis and Schedule;
- ☐ Endowment Funding Agreement or Trust Agreement or Declaration of Trust

**Guidelines to assist in understanding what is required are detailed on the following pages.

## Guidelines

### Real Estate Assurances and Conservation Easement (CE)

Title Report

1. Who holds fee title to property? Should be the Project Applicant. If not, there may be liability and contracting issues.
2. Are there any liens or encumbrances (existing debts or easements) on the property?
    a. Review Preliminary Title Report to evaluate liens and encumbrances (see Property Assessment and Warranty, below).
    b. Could any of these liens or encumbrances potentially interfere with either biological habitat values or ownership? If existing easements can potentially interfere with the conservation values/habitat of the property, those portions of the land should be deducted from the total compensation acreage available on the site.

Property Assessment and Warranty

1. Property owner should submit a Property Assessment and Warranty, which discusses every exception listed on the Preliminary Title Report and Final Title Insurance Policy, evaluating any potential impacts to the conservation values that could result from the exceptions (see below).
2. The Property Assessment and Warranty should include a summary and full explanation of all exceptions remaining on the title, with a statement that the owner/Grantor accepts responsibility for all lands being placed under the CE as available for the primary purposes of the easement, as stated in the easement, and assures that these lands have a free and clear title and are available to be placed under the CE.

Subordination Agreement

1. A Subordination Agreement is necessary if there is any outstanding debt on the property. Review Subordination Agreement language for adequacy—the lending bank or other lien holder must agree to fully subordinate each lien or encumbrance under the CE.

Legal Description and Parcel Map

1. Ensure accuracy of map, and location and acreage protected under the CE.
2. Both the map and the legal description should explain the boundaries of the individual project compensation site. The site should *not* have 'leftover' areas for later use.
3. Ask for an easement map to be prepared (if applicable), showing all easements on the property.

Conservation Easement from Template

1. Who will hold the easement?
    a. Must have third-party oversight by a qualified non-profit or government agency. Qualifications include:

i. Organized under IRS 501(c)(3);
ii. Qualified under CA Civil Code § 815;
iii. Bylaws, Articles of Incorporation, and biographies of Board of Directors on file at, and approved, by SFWO.
1. Must meet requirements of SFWO, including 51% disinterested parties on the Board of Directors;

b. Must be accredited by the Land Trust Accreditation Commission http://www.landtrustaccreditation.org/home.

2. Project Applicant should submit a redline version showing all of their proposed revisions in track changes, along with an explanation of all deviations from the template

Non-Template Conservation Easement

1. If not using the CE template, the Project Applicant should specify objections they have to the template. This may substantially delay processing as the non-template CE will require review by the Solicitor's Office. Alternate CEs must be approved by the SFWO prior to recording.
2. The Project Applicant must either 1) add SFWO as a third-party beneficiary, or 2) add language throughout the document, in all appropriate places, that will assure SFWO the right to enforce, inspect, and approve any and all uses and/or changes under the CE prior to occurrence (including land use, biological management or ownership).
3. Include, at a minimum, language to:
   a. Reserve all mineral, air, and water rights under the CE as necessary to maintain and operate the site in perpetuity;
   b. Ensure all future development rights are forfeited;
   c. Ensure all prohibited uses contained in the CE template are addressed; and
   d. Link the CE, Management Plan, and the Endowment Trust Fund within the document (e.g., note that each exists to support the others, and where each of the documents can be located if a copy is required).
4. Insert necessary language, particularly, but not exclusively, per: (can compare to CE template)
   a. Rights of Grantee
   b. Grantee's Duties
   c. Reserved Rights
   d. Enforcement
   e. Remedies
   f. Access
   g. Costs and Liabilities
   h. Assignment and Transfer
   i. Merger
   j. Notices

**Site Assessment and Development**

Phase I Environmental Site Assessment

1. The Phase I ESA must show that the compensation site is not subject to any recognized environmental conditions as defined by the American Society for Testing and Materials (ASTM) Standard E1527-05 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, available at http://www.astm.org/Standards/E1527.htm, (i.e., the presence or likely presence of any Hazardous Substances or petroleum products).
2. If the Phase I ESA identifies any recognized environmental conditions, the Project Applicant must represent and warrant to the SFWO that all appropriate assessment, clean-up, remediation, or removal action has been completed.
3. Phase II ESA may be required to investigate subsurface conditions.

Restoration or Habitat Development Plan *[not required if doing preservation only]*

1. The overall plan governing construction and habitat establishment activities required to be conducted on the Property, including, without limitation, creation, restoration, and enhancement of habitat.
    a. This plan should include the baseline conditions of the Property including biological resources, geographic location and features, topography, hydrology, vegetation, past, present, and adjacent land uses, species and habitats occurring on the property, a description of the activities and methodologies for creating, restoring, or enhancing habitat types, a map of the approved modifications, overall habitat establishment goals, objectives and Performance Standards, monitoring methodologies required to evaluate and meet the Performance Standards, an approved schedule for reporting monitoring results, a discussion of possible remedial actions, and any other information deemed necessary by the SFWO.
2. Any permits and other authorizations needed to construct and maintain the site shall be included and in place prior to the start of construction of the habitat.
3. Full construction plans for any habitat construction must be *SFWO-approved prior* to the start of construction of the habitat.

Construction Security

1. The Project Applicant shall furnish a Construction Security in the amount of 100% of a reasonable third party estimate or contract to create, restore, or enhance habitats on the property in accordance with the Restoration or Habitat Development Plan.
2. Construction Security can be drawn on should the project proponent default.
3. The Construction Security shall be in the form of an irrevocable standby letter of credit or a cashier's check.
    a. The letter of credit, if chosen, shall be issued for a period of at least one year, and shall provide that the expiration date will be automatically extended for at least one year on each successive expiration date unless, until extension is no longer necessary.
    b. Construction Security shall be in favor of a third party approved by the SFWO.

c. Language in a draft letter of credit to be approved by the SFWO.

Performance Security *[only necessary if habitat is being restored, enhanced, or constructed]*

1. The Project Applicant shall furnish a Performance Security in the amount of 20% of the Construction Security.
2. Performance Security can be drawn on should the Performance Standards not be met, if remedial action becomes necessary.
3. The Performance Security shall be in the form of an irrevocable standby letter of credit or a cashier's check.
   a. The letter of credit, if chosen, shall be issued for a period of at least one year, and shall provide that the expiration date will be automatically extended for at least one year on each successive expiration date unless, until extension is no longer necessary.
   b. Construction Security shall be in favor of a third party approved by the SFWO.
   c. Language in a draft letter of credit to be approved by the SFWO.

**Site Management**

Interim Management Plan

1. The Interim Management Plan should identify the short-term management, monitoring, and reporting activities to be conducted from the time construction ends until the Endowment Fund has been fully funded for one year and all the Performance Standards in the Development Plan have been met. This may be the same as the Long-term Management Plan.

Interim Management Security Analysis and Schedule

*The purpose of the Interim Management Security is to allow the endowment to grow for at least one year without any disbursements, and is a safeguard to ensure that there will be enough funds in the endowment to pay for future management costs. The period can be longer than one year, and is often 3 years for Conservation Banks. Many endowments have recently experienced losses in principal.*

1. The Project Applicant shall furnish an Interim Management Security (in the form of a standby letter of credit) in the amount equal to the estimated cost to implement the Interim Management Plan during the first year of the Interim Management Period, as set for in the Interim Management Security Analysis and Schedule.
2. The Interim Management Security Analysis and Schedule shall consist of a table and/or spreadsheet that shows all of the tasks (management, monitoring, reporting), task descriptions, labor (hours), cost per unit, cost frequency, timing or scheduling of the tasks, the total annual funding necessary for each task, and any associated assumptions for each task required by the Interim Management Plan. The total annual expenses should include administration and contingency costs.
3. The Interim Management Security must:
   a. Be held by a qualified, SFWO-approved, non-profit organization or government agency [see requirements under CE above], and
   b. Be held according to minimum standards for assuring maximum success in earning potential, and will assurances for no loss of principle.

c. Disbursements or releases from the fund must be for documented expenditures, as they occur.

Long-Term Management Plan (LTMP)

1. The LTMP template identifies the long-term management, monitoring and reporting activities to be conducted.
2. The LTMP should include at minimum:
   a. Purpose of the Project and purpose of the LTMP;
   b. A baseline description of the setting, location, history, and types of land use activities, geology, soils, climate, hydrology, habitats present (once project meets Performance Standards), and species descriptions;
   c. Overall management, maintenance and monitoring goals; specific tasks and timing of implementation; and discussion of any constraints, which may affect goals;
   d. The Endowment Fund Analysis and Schedule (see below);
   e. Discussion of Adaptive Management actions for reasonably foreseeable events and possible thresholds for evaluating and implementing Adaptive Management;
   f. Rights of access to the Property and prohibited uses of the Property as provided in the CE; and
   g. Procedures for Property transfer, land manager replacement, amendments, and notices.
3. The LTMP must be incorporated by reference in the CE.
4. The LTMP is considered a living document and may be revised as necessary upon agreement of the land manager, easement holder, and SFWO.

Endowment Fund Analysis and Schedule

1. Can use a PAR or PAR-like analysis and must be based upon the final, approved LTMP.
   a. The analysis should be reviewed by the land manager.
2. The analysis and schedule shall consist of a table and/or spreadsheet that shows all of the tasks (management, monitoring, reporting), task descriptions, labor (hours), cost per unit, cost frequency, timing or scheduling of the tasks, the total annual funding necessary for each task, and any associated assumptions for each task required by the Management Plan. The total annual expenses should include administration and contingency costs (contingency can be included on each line item). Unless there is a separate endowment for the purpose of monitoring and reporting on the CE conditions, then, the analysis should also include costs of
   - Monitoring and reporting CE conditions;
   - Defending the CE; and
   - Liability insurance.
3. The Endowment Fund must:
   a. Be held by a qualified, SFWO-approved, non-profit organization or government agency [see requirements under CE above], and
   b. Be held according to minimum standards for assuring maximum success in earning potential, and will include assurances for no loss of principle.

c. Disbursements or releases from the fund must be for documented expenditures, as they occur.

Endowment Funding Agreement

1. This is the agreement between the endowment holder and the Project Applicant, as to how the endowment is to be funded, held and disbursed;
2. USFWS is not signatory to this agreement, but should be made a third-party beneficiary of the agreement;
3. USFWS has approval authority over the language in the document, and it must state that modifications or transfer of the endowment to another holder are only allowed with USFWS approval;
4. This agreement can also be called: "Trust Agreement", "Declaration of Trust"
5. When the National Fish and Wildlife Foundation (NFWF) holds the endowment, they call this a "Recipient Agreement", and may have an additional MOA with the Project Applicant.

United States Department of the Interior

# FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

April 25, 2013

Document Number: 130425024404

Julie Klingmann
H. T. Harvey & Associates
983 University Avenue Building D
Los Gatos, CA 95032

Subject: Species List for State Route 1/Calera Parkway Project

Dear: Ms. Klingmann

We are sending this official species list in response to your April 25, 2013 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area and also ones that may be affected by projects in the area. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 24, 2013.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found here.

Endangered Species Division

# U.S. Fish & Wildlife Service
# Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 130425024404

Database Last Updated: September 18, 2011

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## Quad Lists

## Listed Species

### Invertebrates

Euphydryas editha bayensis
- bay checkerspot butterfly (T)
- Critical habitat, bay checkerspot butterfly (X)

Haliotes cracherodii
- black abalone (E) (NMFS)

Haliotes sorenseni
- white abalone (E) (NMFS)

Icaricia icarioides missionensis
- mission blue butterfly (E)

Speyeria callippe callippe
- callippe silverspot butterfly (E)

Speyeria zerene myrtleae
- Myrtle's silverspot butterfly (E)

### Fish

Acipenser medirostris
- green sturgeon (T) (NMFS)

Eucyclogobius newberryi
- tidewater goby (E)

Hypomesus transpacificus
- delta smelt (T)

Oncorhynchus kisutch
- coho salmon - central CA coast (E) (NMFS)
- Critical habitat, coho salmon - central CA coast (X) (NMFS)

Oncorhynchus mykiss
- Central California Coastal steelhead (T) (NMFS)
- Central Valley steelhead (T) (NMFS)
- Critical habitat, Central California coastal steelhead (X) (NMFS)

Oncorhynchus tshawytscha
- Central Valley spring-run chinook salmon (T) (NMFS)
- winter-run chinook salmon, Sacramento River (E) (NMFS)

### Amphibians

Ambystoma californiense
- California tiger salamander, central population (T)

Rana draytonii
- California red-legged frog (T)
- Critical habitat, California red-legged frog (X)

### Reptiles

Caretta caretta

loggerhead turtle (T) (NMFS)

Chelonia mydas (incl. agassizi)
green turtle (T) (NMFS)

Dermochelys coriacea
leatherback turtle (E) (NMFS)

Lepidochelys olivacea
olive (=Pacific) ridley sea turtle (T) (NMFS)

Thamnophis sirtalis tetrataenia
San Francisco garter snake (E)

## Birds

Brachyramphus marmoratus
Critical habitat, marbled murrelet (X)
marbled murrelet (T)

Charadrius alexandrinus nivosus
Critical habitat, western snowy plover (X)
western snowy plover (T)

Diomedea albatrus
short-tailed albatross (E)

Pelecanus occidentalis californicus
California brown pelican (E)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)

## Mammals

Arctocephalus townsendi
Guadalupe fur seal (T) (NMFS)

Balaenoptera borealis
sei whale (E) (NMFS)

Balaenoptera musculus
blue whale (E) (NMFS)

Balaenoptera physalus
finback (=fin) whale (E) (NMFS)

Enhydra lutris nereis
southern sea otter (T)

Eubalaena (=Balaena) glacialis
right whale (E) (NMFS)

Eumetopias jubatus
Steller (=northern) sea-lion (T) (NMFS)

Physeter catodon (=macrocephalus)
sperm whale (E) (NMFS)

Reithrodontomys raviventris
salt marsh harvest mouse (E)

## Plants

Acanthomintha duttonii
San Mateo thornmint (E)

Arctostaphylos hookeri ssp. ravenii
Presidio (=Raven's) manzanita (E)

Chorizanthe robusta var. robusta
robust spineflower (E)

Cirsium fontinale var. fontinale
fountain thistle (E)

Eriophyllum latilobum
San Mateo woolly sunflower (E)

Hesperolinon congestum
Marin dwarf-flax (=western flax) (T)

Layia carnosa
beach layia (E)

Lessingia germanorum
San Francisco lessingia (E)

Pentachaeta bellidiflora
white-rayed pentachaeta (E)

Potentilla hickmanii
Hickman's potentilla (=cinquefoil) (E)

Suaeda californica
California sea blite (E)

Trifolium amoenum
showy Indian clover (E)

## Proposed Species

### Plants

Arctostaphylos Franciscana
Critical Habitat, Franciscan Manzanita (X)

### Quads Containing Listed, Proposed or Candidate Species:

WOODSIDE (429A)

HALF MOON BAY (429B)

HUNTERS POINT (448A)

SAN FRANCISCO SOUTH (448B)

MONTARA MOUNTAIN (448C)

SAN MATEO (448D)

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## County Lists

No county species lists requested.

## Key:

(E) Endangered - Listed as being in danger of extinction.

(T) Threatened - Listed as likely to become endangered within the foreseeable future.

(P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.

(C) Candidate - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) Critical Habitat designated for this species

## Important Information About Your Species List

### How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

## Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

## Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

## Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

## Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

## Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

## Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

## Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

## Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

## Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 24, 2013.