Santa Cruz 17 Sediment Control

In Santa Cruz County between 0.74 mile North of Route 1/17 Separation and Sims Road

05-SCR-17-0.7/2.2

Project ID #0500020290

EA 05-0Q600

Initial Study with Proposed Mitigated Negative Declaration

Prepared by the

State of California Department of Transportation

March 2014

General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study that examines the potential environmental impacts of alternatives being considered for the proposed project in Santa Cruz County, California. This document describes the proposed project, the existing environment that could be affected by the project, potential impacts from the project, and the proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- Please read this Initial Study. Additional copies of this document as well as the technical studies are available for review at the Caltrans district office located at 50 Higuera Street, San Luis Obispo, California, 93401 and at the Santa Cruz County Library, 224 Church Street Santa Cruz, CA 95060-3873.
- We welcome your comments. If you have any concerns regarding the proposed project, please attend the public hearing, or send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:

Matt Fowler

California Department of Transportation

50 Higuera Street

San Luis Obispo, California 93401

Submit comments via email to: Matt_C_Fowler@dot.ca.gov.

Submit comments by the deadline: May 20, 2014

What happens next?

After comments are received from the public and reviewing agencies, Caltrans may 1) give environmental approval to the proposed project; 2) do additional environmental studies; or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please contact: Caltrans, Attn: Matt Fowler, Central Coast Environmental Management, 50 Higuera Street, San Luis Obispo, CA 93401; Voice: (805) 542-4603; or California Relay Service TTY number: (805) 549-3259.

CEQA Environmental Checklist

PROJECT DESCRIPTION AND BACKGROUND

Project title:	Santa Cruz 17 Sediment Control
Lead agency name and address:	Caltrans-District 5, 50 Higuera Street, San Luis Obispo, Ca 93405
Contact person and telephone number:	Matt Fowler 805-542-4603
Project location:	In Santa Cruz County between 0.74 mile North of Route 1/17 Separation and Sims Road
Project sponsor's name and address:	Caltrans-District 5, 50 Higuera Street, San Luis Obispo, Ca 93405
General plan description:	One single family dwelling, one second dwelling unit, home occupations, and horses with a use approval
Zoning:	Rural Residential
Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for project implementation)	Caltrans proposes to stabilize the existing cut slopes on State Route 17 by constructing an Anchored Wire Mesh system from the toe of the slope to about 10-feet beyond the top of the slope. Rock Slope Protection will be placed in locations between the Anchored Wire Mesh sections. The existing concrete valley gutters along the top of the bench will be removed and replaced using filter-fabric-lined ditches with permeable native materials and perforated underdrain pipes known as Slope Interceptor Drains. High Density Polyethylene downdrains and drain inlets will be constructed to connect the perforated pipe down to the existing and proposed drainage system along the highway. A 95 foot long by 10 foot wide 2:1 slope compacted earth access road for construction and maintenance access will be constructed diagonally across the slope at about Post Mile 1.35 from State Route 17. This project will require a 360 foot Permanent Maintenance Easement on a private road off of La Madrona Drive with a 200 foot by 10 foot unpaved Permanent Maintenance Easement off of the private road. Six native trees will be removed and replanted at a 10:1 ratio. Approximately 2.15 acres of invasive Acacia trees will be removed and the slope will be revegatated with native species. A 3 year planting, invasive plant control and native plant establishment period contract is expected to be split from this project and completed separately.
Surrounding land uses and setting: (Briefly describe the project's surroundings)	The project limits occur primarily within Caltrans right-of-way; which is primarily disturbed upland redwood forest abutting State Route 17. The area adjacent to the right-of-way is a zoned Residental Rural neighborhood and

	the Pasatiempo Golf Course.
Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreements):	None

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project. Please see the checklist beginning on page X for additional information. Any boxes *not* checked represent issues that were considered as part of the scoping and environmental analysis for the project, but for which no adverse impacts were identified. Regarding boxes not checked, no further discussion of these issues is in this document.

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

DETERMINATION:

On the basis of this initial evaluation,

☐	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☒	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
☐	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
☐	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project.

Signature: Janet A. Newland	**Date:** 4-1-2014
Printed Name: Janet A. Newland	**For:**

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

Caltrans proposes to stabilize the existing cut slopes on State Route 17 by constructing an Anchored Wire Mesh system from the toe of the slope to about 10-feet beyond the top of the slope. Rock Slope Protection will be placed in locations between the Anchored Wire Mesh sections. The existing concrete valley gutters along the top of the bench will be removed and replaced using filter-fabric-lined ditches with permeable native materials and perforated underdrain pipes known as Slope Interceptor Drains. High Density Polyethylene downdrains and drain inlets will be constructed to connect the perforated pipe down to the existing and proposed drainage system along the highway. A 95 foot long by 10 foot wide 2:1 slope compacted earth access road for construction and maintenance access will be constructed diagonally across the slope at about Post Mile 1.35 from State Route 17. This project will require a 360 foot Permanent Maintenance Easement on a private road off of La Madrona Drive with a 200 foot by 10 foot unpaved Permanent Maintenance Easement off of the private road. Six native trees will be removed and replanted at a 10:1 ratio. Approximately 2.15 acres of invasive Acacia trees will be removed and the slope will be revegatated with native species. A 3 year planting, invasive plant control and native plant establishment period contract is expected to be split from this project and completed separately.

DRAFT

Determination

This proposed Mitigated Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans' decision on the project is final. This Mitigated Negative Declaration is subject to change based on comments received by interested agencies and the public.

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

The proposed project would have no effect on: Agriculture and Forest Resources, Air Quality, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation/Traffic and Utilities and Service Systems.

In addition, the proposed project would have no significant effect on: Biological Resources and Hazards and Hazardous Waste.

In addition, although the proposed project would have an adverse effect on Aesthetics, this effect would reduced to a level of insignificance with implementation of the following mitigation measures:

- The rock slope protection shall be placed in natural-appearing forms to the greatest extent possible, while still serving its function. Placement shall include irregular shapes, undulated perimeters, and occasional partially-buried perimeter stones. The general rock slope protection form and layout shall be shown on the project plans. During on-site rock placement, a Caltrans Landscape Architecture representative shall be present and provide recommendations to the Resident Engineer regarding aesthetic placement.

- The rock slope protection shall include varied-size rocks in order reduce its engineered appearance.

- Following final placement of the rock slope protection, the rock shall be darkened and/or colored to reduce noticeability and to blend in with the natural characteristics of the area. The specific degree and hue of rock darkening and/or coloring shall be determined by a Caltrans Landscape Architecture representative.

- The anchored wire mesh shall be colored or coated to reduce noticeability and blend in with the natural characteristics of the area. The specific color of the mesh shall be determined by a Caltrans Landscape Architecture representative.

- The slope face shall be planted with a variety of native shrubs from liners and/or other container stock. The container plants shall be in addition to the proposed seeding and other measures. The shrub planting shall be of sufficient quantity and density such that 50 percent of the slope is covered with shrubs within 3 years following construction.

- The revegetation planting shall include a temporary irrigation system to promote vegetative establishment.

- The revegetation planting shall include a minimum three year plant establishment contract.

- Slope-rounding and other earthwork techniques shall be utilized to reduce the engineered appearance of the slopes and access road.

_____ _____

Janet Newland
Office Chief
District #5
California Department of Transportation

Date

Project Vicinity Map

Storm Water Mitigation
05-SCR-017-PM 0.7/2.2
EA-05-0Q600

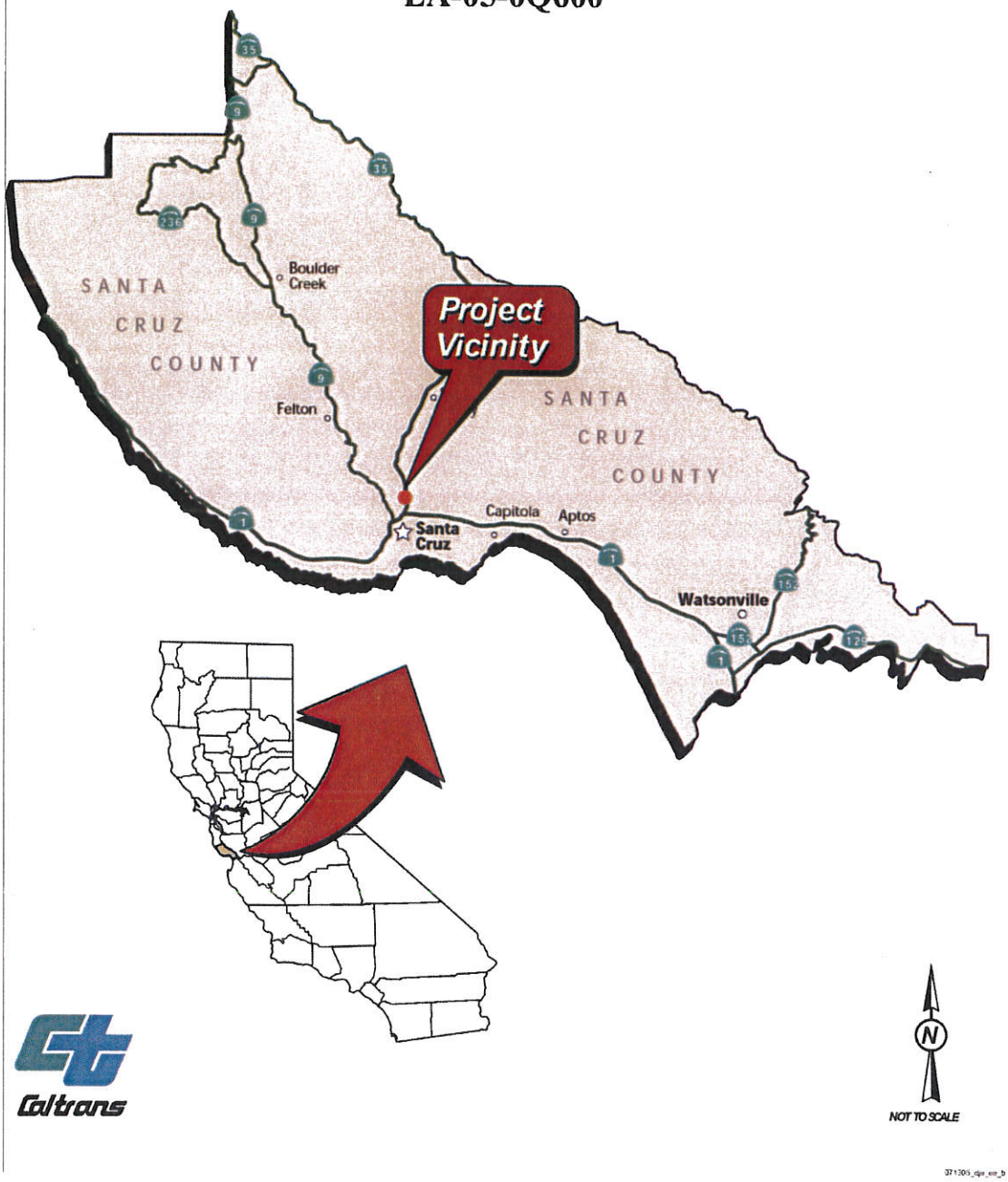


Figure 1 Project Vicinity Map

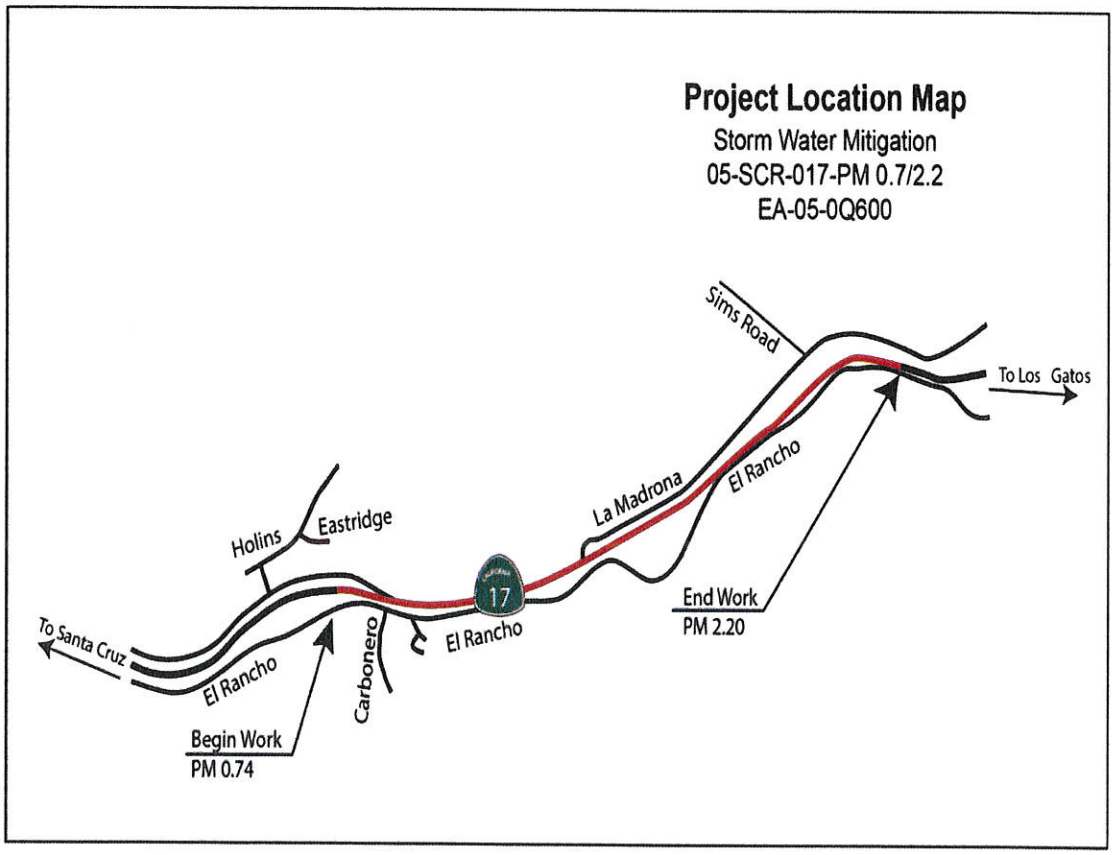


Figure 2 Project Location Map

Section 1 Impacts Checklist

CEQA Environmental Checklist

05-SCR-17	0.7/2.2	05-0Q600
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 a clarifying discussion is needed, the discussion either follows the applicable section in the checklist or is placed 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.

Draft

	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 *Explanation:* Refer to Additional Explanations for aesthetics located at the end of this checklist for discussion of aesthetics	☐	☒	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway *Explanation:* Refer to Additional Explanations for aesthetics located at the end of this checklist for discussion of aesthetics	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings? *Explanation:* Refer to Additional Explanations for aesthetics located at the end of this checklist for discussion of aesthetics	☐	☒	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? *Explanation:* No new source of light or glare would be created as part of the project (Visual Impact Assessment, January 2014)	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES:				
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?	☐	☐	☐	☒
Explanation: The proposed project would not convert any type of farmland to non-agricultural use (Field Review, December 2012)				
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
Explanation: The project would not impact any properties zoned for agriculture or under a Williamson Act contract (Santa Cruz County General Plan, 1994 and Field Review, December 2012)				
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))?	☐	☐	☐	☒
Explanation: The project will not impact any land zoned as forest or timberland (Santa Cruz County General Plan, 1994 and Field Review, December 2012)				
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
Explanation: The proposed project would not result in a loss or convert any type of forest land (Field Review, December 2012)				
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?	☐	☐	☐	☒
Explanation: The proposed project would not convert any type of forest land to non-forest use or Farmland to non-agricultural use (Field Review, December 2012)				
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:	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
Explanation: This project is considered exempt from analysis under CFR Section 93.126 Table 2"plantings, landscaping, etc" (Air Quality Study Report, December 2013)				
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
Explanation: Refer to III (a) (Air Quality Study Report, December 2013)				
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)?	☐	☐	☐	☒
Explanation: Refer to III (a) (Air Quality Study Report, December 2013)				
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
Explanation: There will not be substantial pollutants generated as part of the proposed project (Air Quality Study Report, December 2013)				
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒
Explanation: No objectionable odors will be generated as part of the proposed project (Air Quality Study Report, December 2013)				
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
Explanation: There are no sensitive species or habitats of concern within the project area (Natural Environment Study, October 2013)				
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 Willife or US Fish and Wildlife Service?	☐	☐	☐	☒
Explanation: There are no sensitive habitats of concern within the project area (Natural Environment Study, October 2013)				

	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? *Explanation:* No jurisdictional waters would be affected by this project (Natural Environment Study, October 2013)	☐	☐	☐	☒
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? *Explanation:* The proposed project would not interfere with the movement of fish or wildlife species (Natural Environment Study, October 2013)	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? *Explanation:* The proposed project would not conflict with any local policies or ordinances concerning biological resources and tree preservation (Santa Cruz County General Plan, 1994)	☐	☐	☐	☒
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? *Explanation:* There are no conservation plans in effect in the project area (Natural Environment Study, October 2013	☐	☐	☐	☒
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? *Explanation:* Due to the nature of the undertaking, the results of the literature review, and a field inspection, the project has no potential to affect historic properties (Cultural Resources Review, January 2014)	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? *Explanation:* Due to the nature of the undertaking, the results of the literature review, and a field inspection, the project has no potential to affect archaeological resources (Cultural Resources Review, January 2014)	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
Explanation: The proposed project would not affect sensitive paleontological resources. There are no known sensitive geological or topographic features or soils within the project area (Paleontology Study Memo, January 2014)				
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
Explanation: The proposed project would not disturb any human remains (Cultural Resources Review, Report January 2014)				
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?	☐	☐	☐	☒
Explanation: The nearest fault is the Monterey Bay-Tularcitos at 7.3 miles away, the proposed project elements will be built to Caltrans standards and would not expose people or structures to any substantial adverse effects (Preliminary Geotechnical Report, October 2013)				
ii) Strong seismic ground shaking?	☐	☐	☐	☒
Explanation: Refer to VI (a) (i) (Preliminary Geotechnical Report, October 2013)				
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
Explanation: Refer to VI (a) (i) (Preliminary Geotechnical Report, October 2013)				
iv) Landslides?	☐	☐	☐	☒
Explanation: The proposed project elements are intended to reduce sedimentation from the project site and would not create the potential for landslides, lateral spreading, subsidence, liquefaction, or collapse (Preliminary Geotechnical Report, October 2013)				

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
Explanation: All disturbed areas of this project would receive standard erosion control and storm water runoff control measures (Draft Project Report, January 2014)				
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?	☐	☐	☐	☒
Explanation: The proposed project elements are intended to reduce sedimentation from the project site and would not create the potential for landslides, lateral spreading, subsidence, liquefaction, or collapse (Preliminary Geotechnical Report, October 2013)				
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?	☐	☐	☐	☒
Explanation: The proposed project is not located on an expansive soil (Preliminary Geotechnical Report, October 2013)				
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?	☐	☐	☐	☒
Explanation: The proposed project would not generate wastewater or have the need to dispose of wastewater (Field Review, December 2012)				

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? 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 Appendix B of the 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 greenhouse gas 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. Additional information is located in Appendix B of this document.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
Explanation: A Initial Site Assessment was performed and no hazardous waste would be transported, used or disposed of as part of this project (Initial Site Assessment, January 2014)				
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?	☐	☐	☐	☒
Explanation: A Initial Site Assessment was performed and no hazardous waste would be transported, used or disposed of as part of this project (Initial Site Assessment, January 2014)				
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
Explanation: There are no schools or proposed school within one quarter mile of the project (Field Review , December 2012)				
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?	☐	☐	☐	☒
Explanation: This project site is not included on any list compiled pursuant to Government Code Section 65962.5 (Initial Site Assessment, January 2014)				
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?	☐	☐	☐	☒
Explanation: The proposed project is not located within an airport land use plan or within two miles of a public airport or public-use airport (Field Review, December 2012)				
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?	☐	☐	☐	☒
Explanation: Refer to VII (e)				

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? *Explanation:* The project would allow the highway to remain in operation during construction; therefore, it would not interfere with emergency response routes (Draft Project Report, January 2014)	☐	☐	☐	☒
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? *Explanation:* The proposed project would not expose people or structures to risk related to wildland fires (Field Review, December 2012)	☐	☐	☐	☒

IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements? *Explanation:* Implementing Best Management Practices during construction, through a Water Pollution Control Program or a Storm Water Pollution Prevention Plan, would effectively prevent surface water runoff impacts, and comply with the Regional Water Quality Control Board's regulations (Water Quality Assessment, September 2013)	☐	☐	☐	☒
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)? *Explanation:* The proposed surface drainage improvements on not expected to change the local groundwater regime (Preliminary Geotechnical Report, October 2013)	☐	☐	☐	☒
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? *Explanation:* The proposed project components are to address the deficient drainage facilities of the project site and would reduce the amount of surface runoff (Draft Project Report, January 2013)	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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? *Explanation:* The proposed project components are to address the deficient drainage facilities of the project site and would reduce the amount of surface runoff (Draft Project Report, January 2013)	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff? *Explanation:* The proposed project components are to address the deficient drainage facilities of the project site and would reduce the amount of surface runoff (Draft Project Report, January 2013)	☐	☐	☐	☒
f) Otherwise substantially degrade water quality? *Explanation:* The proposed project components are to address the deficient drainage facilities of the project site and would reduce the amount of surface runoff (Draft Project Report, January 2013))	☐	☐	☐	☒
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? *Explanation:* The project is not located in a 100-year flood zone (Federal Emergency Management Agency maps)	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? *Explanation:* The project is not located in a 100-year flood zone (Federal Emergency Management Agency maps)	☐	☐	☐	☒
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? *Explanation:* There is no levee or dam located in the project area (Field review, December 2012)	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow *Explanation:* There are no lakes, oceans, or mudflows in the project area (Field review, December 2012)	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
Explanation: The proposed project would not divide an established community (Field Review, December 2012)				
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?	☐	☐	☐	☒
Explanation: The project would not conflict with zoning or land use plans (Santa Cruz County General Plan, 1994)				
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
Explanation: There are no known conservation plans in effect within the project area (Santa Cruz County General Plan, 1994)				
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?	☐	☐	☐	☒
Explanation: There are no valuable mineral resources in the project area (Santa Cruz County General Plan, 1994)				
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?	☐	☐	☐	☒
Explanation: Refer to XI (a) (Santa Cruz County General Plan, 1994)				
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?	☐	☐	☒	☐
Explanation: There may be a temporary increase in noise levels during construction, but will not create any permanent noise increase since the project will not construct a highway on a new location or change the alignment (Noise Study Report, December 2013)				

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
Explanation: The project is not expected to generate any groundborne vibration impacts or increase groundborne noise levels (Noise Study Report, December 2013)				
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
Explanation: Refer to XII (a)				
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
Explanation: Temporary increase in noise levels during construction is expected and temporary noise barriers may be erected. (Noise Study Report, December 2013)				
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?	☐	☐	☐	☒
Explanation: The proposed project is not located within an airport land use plan or within two miles of any airport (Field Review December 2012)				
) 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?	☐	☐	☐	☒
Explanation: Refer to XII (e)				
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)?	☐	☐	☐	☒
Explanation: The proposed project components are to address the deficient drainage facilities of the project site and would not induce population growth either directly or indirectly (Draft Project Report, January 2014)				
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
Explanation: No residential relocations would be needed for the project (Draft Project Report, January 2014)				
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Explanation: Refer to XII (b)				
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?	☐	☐	☐	☒
Explanation: Draft Project Report, (January 2014)				
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?	☐	☐	☐	☒
Explanation: The proposed project components are to address the deficient drainage facilities of the project site and would not cause any increase in the use of local facilities (Draft Project Report, January 2014)				
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?	☐	☐	☐	☒
Explanation: The proposed project would not affect any recreational facilities (Draft Project Report, January 2014)				

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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? *Explanation:* The proposed project components are to address the deficient drainage facilities of the project site (Draft Project Report, January 2014)	☐	☐	☐	☒
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? *Explanation:* The proposed project components are to address the deficient drainage facilities of the project site and would not exceed any level of service standard (Draft Project Report ,January 2014)	☐	☐	☐	☒
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? *Explanation:* The proposed project components are to address the deficient drainage facilities of the project site (Draft Project Report, January 2014)	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? *Explanation:* The proposed project components are to address the deficient drainage facilities of the project site (Draft Project Report, January 2014)	☐	☐	☐	☒
e) Result in inadequate emergency access? *Explanation*: The proposed project would not cause inadequate emergency access (Draft Project Report, January 2014)	☐	☐	☐	☒
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? *Explanation:* The proposed project components are to address the deficient drainage facilities of the project site (Draft Project Report, January 2014)	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
Explanation: No waste water-generating sources are proposed that would require new water or wastewater treatment facilities (Draft Project Report, January 2014)				
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?	☐	☐	☐	☒
Explanation: The proposed project components are to address the deficient drainage facilities of the project site (Draft Project Report, January 2014)				
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?	☐	☐	☐	☒
Explanation: The proposed project components are to address the deficient drainage facilities of the project site and to reduce the sedimentation to the San Lorenzo River Watershed (Draft Project Report, January 2014)				
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
Explanation: The proposed project components are to address the deficient drainage facilities of the project site (Draft Project Report, January 2014)				
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?	☐	☐	☐	☒
Explanation: The proposed project components are to address the deficient drainage facilities of the project site (Draft Project Report, January 2014)				
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
Explanation: There will not be a substantial about of solid waste that could not be disposed of adequately (Draft Project Report, January 2014)				
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒
Explanation: Refer to XVI (f)				

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
Explanation: Based upon project studies , the project would not 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				
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)?	☐	☐	☒	☐
Explanation: The only potentially significant impacts are to Aesthetics after project level mitigation there would be no cumulatively considerable impacts. Refer to discussion of proposed mitigation measures and avoidance and minimization measures located at the end of this checklist under Additional Explanations for Aesthetics.				
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Explanation: The only potentially significant impacts are to Aesthetics after project level mitigation, impacts will be reduced to a level of insignificance.

Additional Explanations for Questions in the Impacts Checklist

I. Aesthetics (checklist questions a, b and c)

Affected Environment

State Route 17 through the project area is a four-lane conventional highway with 12 foot wide lanes, concrete median barrier as well as metal beam guardrail at various locations along the north and southbound road shoulders. State Route 17 in Santa Cruz County serves local and interregional traffic which primarily includes recreational, commuters, as well as commercial users and is designated as Eligible in the State Scenic Highway system.

The project site is an existing embankment slope adjacent to and above the southbound lanes of the highway. The slope is generally steeper (approximately 0.75:1) at the highway elevation and becomes somewhat flatter closer to the ridge line. The steeper slopes hold minimal vegetation where erosion has occurred. Ephemeral springs occur along the faces of these slopes following rain events. The slope is currently drained by a concrete gutter which follows a 10 to 15 foot wide terrace incised by erosion causing gullies and slump failure scarps. This gutter has been broken by slope movement and/or erosion. The drainage system has been temporarily repaired by re-directing surface water directly down-slope at break locations with two 18-inch diameter plastic corrugated pipes. These two above-ground pipes follow down the slope-face and terminate at the road shoulder.

Visual Character

The region is part of a coastal terrace and lies on the western slopes of the Coastal Mountain Range northeast of the city of Santa Cruz. The Route 17 corridor generally traverses a north-south route from the coastline over the mountains to the Santa Clara Valley inland. The landform of the region is characterized by slopes and ravines forming a series of ridgelines and valleys as the hills rise from the Pacific Ocean. In general, the regional topography supports a mostly curvilinear roadway which produces views for the highway traveler ranging from close-in views of roadside slopes to mid-range hillside views and wide open panoramas.

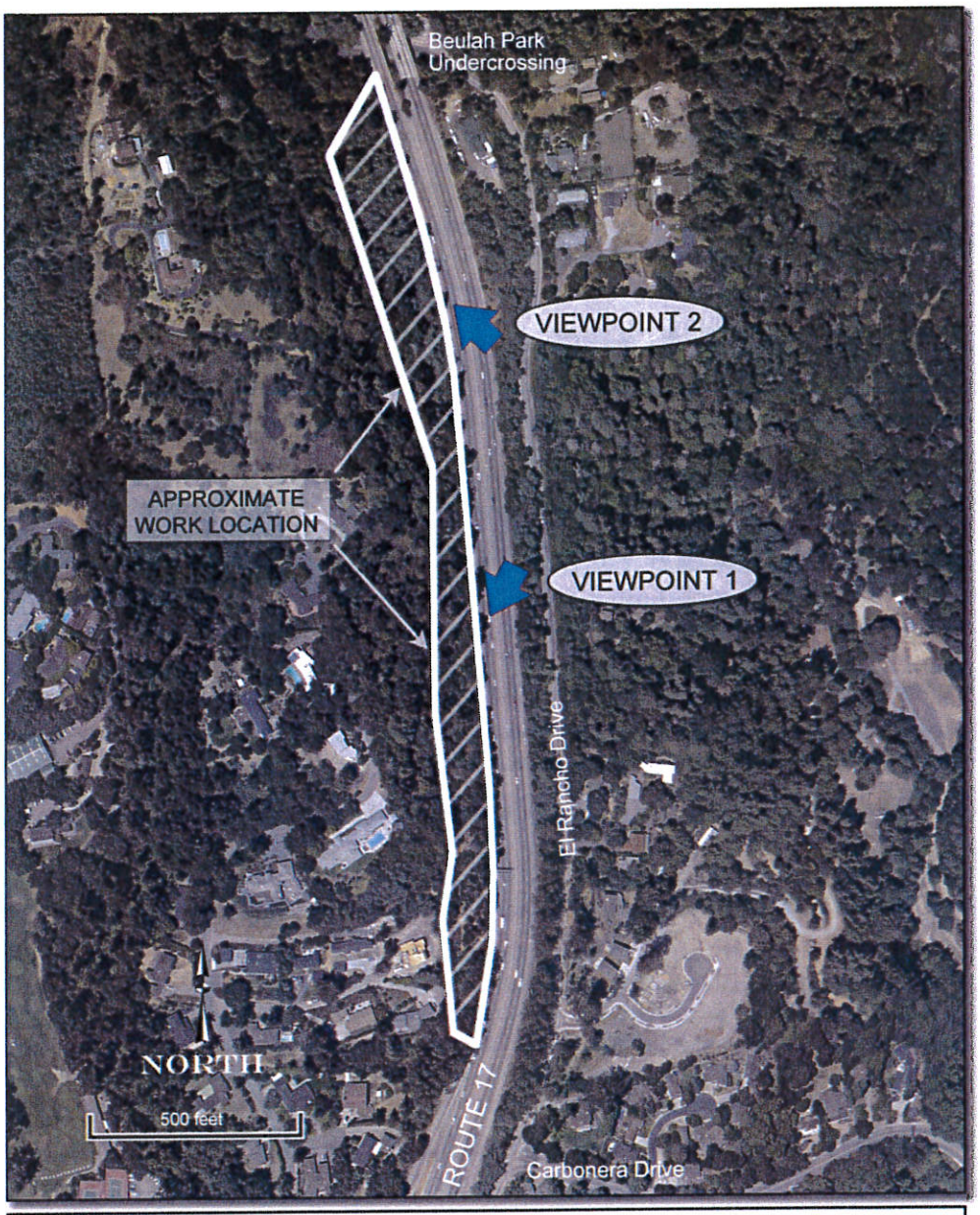
The project site is located south of the community of Scotts Valley in an area of varied topography, with the adjacent hillsides rising well above the roadside in certain areas, and dropping below the highway at other locations. Throughout the region, vegetation is a primary component of overall visual character. In the project area, the vegetative cover is

mixed evergreen forest, primarily with mature pine, fir, oak and redwood trees, and an associated understory. The size and density of the existing vegetation, in combination with its proximity to the road, generally blocks long-range views to and from the highway throughout much of the area. In many areas, views from the road are limited to a distance of approximately 50 to 200 feet because of intervening vegetation.

Along this section of Highway 17 the primary evidence of development is the roadway itself and scattered residential and commercial buildings beyond the roadside. In addition to the actual roadway surface, visible highway elements include concrete median and roadside barrier, metal barriers, occasional retaining walls, cut slopes, signage, call boxes and markers, as well as the vehicular traffic itself. Overhead utility poles and wires also contribute to the view along the corridor. In this section of Route 17 built development has a low to moderate visual presence in the landscape. The project is located in a transitional area between the more developed urban setting of Santa Cruz city and the less developed landscape to the north. Throughout much of this section of the highway, the scale and frequency of structures and other built amenities are such that although visible, they don't dominate the views when seen in the context of the overall landscape. Existing dense vegetation and varied topography preclude much of the potential views of off-highway development throughout the project area.

The visual study identified two Observer Points to best disclose the visual character and changes resulting from implementation of the project. Observer Viewpoint 1 is from Highway 17 looking southbound at the southern half of the project. Observer Viewpoint 2 is from Highway 17 looking northbound at the northern half of the project. The view points are shown in Figures 1, 2.1, 2.2, 3.1 and 3.2.

OBSERVER VIEWPOINT AND PHOTO-SIMULATION LOCATION MAP



= Location and direction of Observer Viewpoint and Photo-Simulation

Figure 1

Several residences occupy the ridge west of and above the project site. The Pasatiempo Golf Course is located just west of the project. With exception of the golf course and a few properties, the slopes between the golf course and Highway 17 are densely populated with groves of native, redwood, coast live oak, tanbark oak, douglas fir, and invasive acacia trees.

Acacia trees dominate much of the slope along the eastern third of the project, many of which have fallen, resulting in exposed loose soils and visual scarring.

Observer Viewpoint 1 is considered to be of moderately high baseline visual quality. The well-vegetated character of the upper slope is moderated somewhat by the pockets of eroded gullies and dying vegetation along the lower and mid-portions of the slope. The vividness or memorability rating is moderate since this type of view is not unique to the Route 17 corridor or the region. The visual intactness is moderately high since few non-typical visual elements are present. The unity rating is slightly above average because although the view is generally harmonious, the scarred slope and substantial vehicle traffic detract from the scene. (Figure 2.1, 2.2)

OBSERVER VIEWPOINT 1 –From Highway 17 looking southbound at the southern half of the project

OV-1 Existing Condition

Figure 2.1

OV-1 Proposed Condition

Figure 2.2

Observer Viewpoint 2 is of moderately high existing visual quality. The vividness or memorability rating is moderate because this type of view is common along the Route 17 corridor. The visual intactness is moderately high since few non-typical visual elements can be seen. The unity rating is slightly above average because the otherwise harmonious view is somewhat affected by the scarred slope and substantial vehicle traffic. (Figure 3.1, 3.2)

OBSERVER VIEWPOINT 2 — From Highway 17 looking northbound at the northern half of the project

OV-2 Existing Condition

Figure 3.1)

OV-2 Proposed Condition

Figure 3.2

The quality of the existing visual environment through the project area is moderately high. The undulating topography and dense trees along the adjacent landscape create an attractive setting for the highway. In general, the lush roadside of the Route 17 corridor establishes a forested visual character as well as a gateway aesthetic for the adjacent regions and communities. This view quality is somewhat compromised at certain locations within the project site due to hillside erosion and scarring.

Based on its high visibility immediately adjacent to the highway, along with the substantial number of potential viewers, the project site is considered to have a moderately high degree of visual exposure to the public

Environmental Consequences

PROJECT IMPACTS

The project proposes to remove the majority of non-native vegetation from the slope, modify and reconstruct the existing drainage system, and place rock slope protection (RSP)

extending from the road's edge to the top of the slope at five locations. The project also proposes to replant the slope and all disturbed areas with a combination of native grasses, shrubs and trees. The existing mature trees above the slope would be protected. On the slope-face itself, the primary method of revegetation would be seeding along with a limited amount of seedling placement. The entire slope-face between the RSP locations would be covered with a coconut fiber type (coir) blanket held in place by an anchored wire mesh to prevent erosion and promote vegetation establishment. Willow cuttings would be placed at each of the RSP locations, and native trees and shrubs from containers would be planted above the slope throughout the southern end of the project.

Once established, after approximately 2 to 3 years, the proposed grass and shrub revegetation would substantially hide the anchored wire mesh and coir netting. Visibility of the rock slope protection would also be reduced, although some extent of the rock slope protection is expected to be seen after successful revegetation. The willow cuttings would be the primary means of reducing visibility of the rock slope protection. The full visual benefit of the willow planting would be expected to take approximately 5 to 7 years. Please see Appendix A for simulations.

Even with full revegetation, the project site would undergo a substantial visual change. The existing slope holds generally dense groupings of large and medium-sized trees and shrubs. The project action would replace this with grasses, shrubs and pockets of willows, affecting the appearance and the spatial characteristics of the site. The project site would maintain a mostly natural character and the erosive scarring would be reduced, however the built and engineered aspects of the slope would become more visually evident than the existing condition. The degree of this visual change would be greatly affected in large part by the long-term success of the proposed revegetation efforts

Visual Impacts during Project Construction

Project construction is expected to last approximately six months. During that time. construction vehicles, equipment and other elements would be visible at and near the project work site. Temporary storage of construction materials and equipment would also be seen in the area. In addition, required safety devices such as signage, orange cones, orange fencing and other devices would be present. Workers would be visible throughout the construction phase. Views of stopped and slowed vehicle queues on the highway may also increase due to construction operations.

Equipment, vehicles, materials, workers, safety devices and related activities would not be unexpected visual elements at a typical construction site. With this understanding, viewers

may have a greater acceptance of the temporary visual disruption caused by the project. This reduced viewer sensitivity combined with the relatively short duration of the work would result in minimal visual impacts during project construction

Avoidance, Minimization, and/or Mitigation Measures

The following measures would reduce the project's potential visual impact as seen from Highway 17 and the surrounding area. The primary intent of the following measures would be to mitigate the affect of the project caused mostly by the loss of vegetative character along the highway corridor.

1. The rock slope protection shall be placed in natural-appearing forms to the greatest extent possible, while still serving its function. Placement shall include irregular shapes, undulated perimeters, and occasional partially-buried perimeter stones. The general rock slope protection form and layout shall be shown on the project plans. During on-site rock placement, a Caltrans Landscape Architecture representative shall be present and provide recommendations to the Resident Engineer regarding aesthetic placement.

2. The rock slope protection shall include varied-size rocks in order reduce its engineered appearance.

3. Following final placement of the rock slope protection, the rock shall be darkened and/or colored to reduce noticeability and to blend in with the natural characteristics of the area. The specific degree and hue of rock darkening and/or coloring shall be determined by a Caltrans Landscape Architecture representative.

4. The anchored wire mesh shall be colored or coated to reduce noticeability and blend in with the natural characteristics of the area. The specific color of the mesh shall be determined by a Caltrans Landscape Architecture representative.

5. The slope face shall be planted with a variety of native shrubs from liners and/or other container stock. The container plants shall be in addition to the proposed seeding and other measures. The shrub planting shall be of sufficient quantity and density such that 50 percent of the slope is covered with shrubs within 3 years following construction.

6. The revegetation planting shall include a temporary irrigation system to promote vegetative establishment.

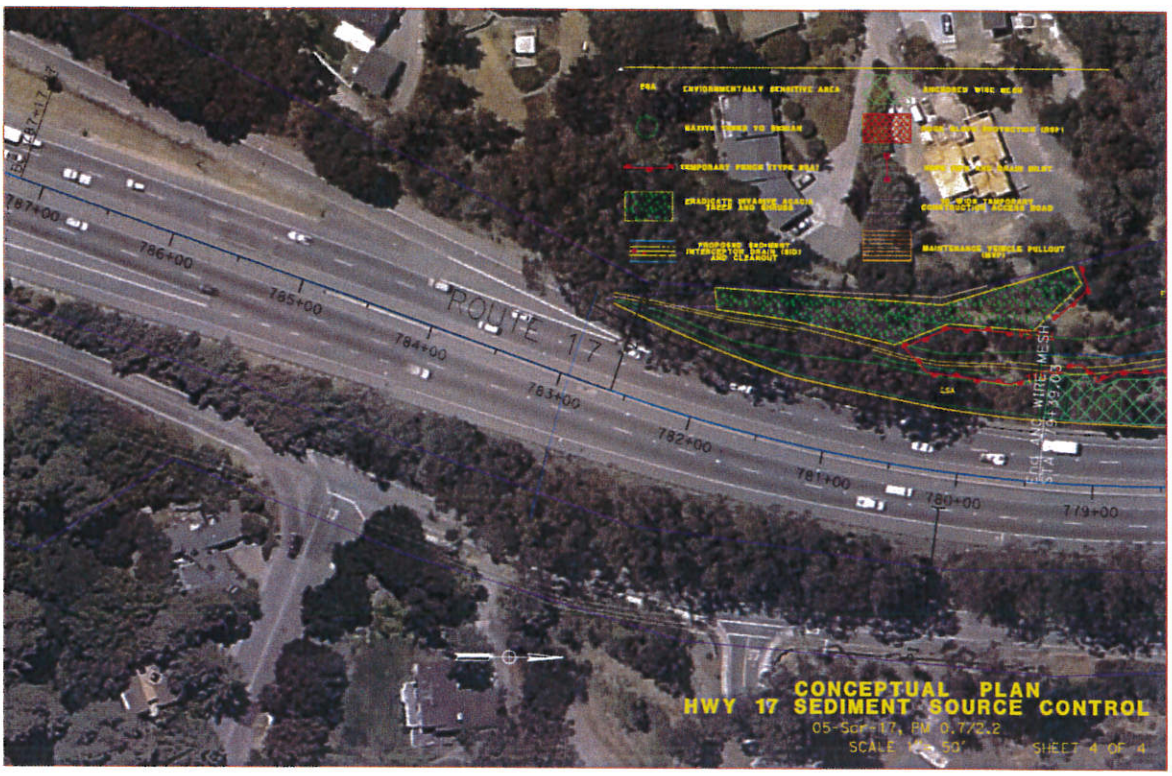
7. The revegetation planting shall include a minimum three year plant establishment contract.

8. Slope-rounding and other earthwork techniques shall be utilized to reduce the engineered appearance of the slopes and access road.

Appendix A Project Mapping

ROUTE 17
CONCEPTUAL PLAN
HWY 17 SEDIMENT SOURCE CONTROL
05-Scr-17, PM 0.7/2.2
SCALE 1"= 50'
SHEET 2 OF 4

CONCEPTUAL PLAN
HWY 17 SEDIMENT SOURCE CONTROL
05-Scr-17, PM 0.7/2.2
SCALE 1" = 50'
SHEET 3 OF 4
778+00
777+00
776+00
775+00
774+00
773+00
772+00
771+00
Beg ANC WIRE MESH/End RSP
STA 774+10.91
Beg RSP/End ANC WIRE MESH
STA 775+73.00
Beg ANC WIRE MESH/End RSP
STA 772+85.16
Beg RSP/End ANC WIRE MESH
STA 774+48.17
Beg ANC WIRE MESH/End RSP
STA 773+18.12
Beg RSP/End ANC WIRE MESH
STA 772+31.29
Beg ANC WIRE MESH/End RSP
STA 771+82.72
Beg RSP/End ANC WIRE MESH
STA 771+19.11
Beg ANC WIRE MESH/End RSP
STA 770+41.87
Beg RSP/End ANC WIRE MESH
ROD


ENVIRONMENTALLY SENSITIVE AREA
ROUTE 17
787+00
786+00
785+00
784+00
783+00
782+00
781+00
780+00
779+00
CONCEPTUAL PLAN
HWY 17 SEDIMENT SOURCE CONTROL
SCALE 1" = 50'
SHEET 4 OF 4

Appendix B Climate Change

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 gas (GHG) emissions, particularly those generated from the production and use of fossil fuels. Research from such establishments as the Intergovernmental Panel on Climate Change (IPCC) are primarily concerned with the emissions of GHGs generated by human activity including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light duty trucks, other trucks, buses, and motorcycles make up the largest source (second to electricity generation) of GHG emitting sources. The dominant GHG emitted is CO_2, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas 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 resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)[1].

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing growth of vehicle miles traveled (VMT), 3) transitioning to lower GHG emitting fuels, and 4) improving vehicle technologies. To be most effective all four strategies should be pursued collectively. The following Regulatory Setting section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

[1] http://climatechange.transportation.org/ghg_mitigation/

Regulatory Setting

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 GHG emissions and climate change. Relevant legislation include the following policies:

- Assembly Bill 1493 (AB 1493), Pavley.
- Executive Order (EO) S-3-05: (signed on June 1, 2005, by former Governor Arnold Schwarzenegger)
- AB 32, the Global Warming Solutions Act of 2006, Núñez and Pavley
- Executive Order S-20-06: (signed on October 18, 2006 by former Governor Arnold Schwarzenegger)
- Executive Order S-01-07: (signed on January 18, 2007 by former Governor Arnold Schwarzenegger)
- Senate Bill 97 (SB 97) Chapter 185, 2007
- Caltrans Director's Policy 30 (DP-30) Climate Change (approved June 22, 2012): is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. This policy contributes to the Department's stewardship goal to preserve and enhance California's resources and assets.

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. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has promulgated explicit guidance or methodology to conduct project-level GHG 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. Despite the lack of Federal GHG regulations and legislation, FHWA as well as the National Highway Traffic Safety Administration (NHTSA) and U.S. EPA are taking steps to lessen climate change impacts by improving transportation system efficiency, creating cleaner fuels, reducing the growth of vehicle hours travelled, and enabling the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines.

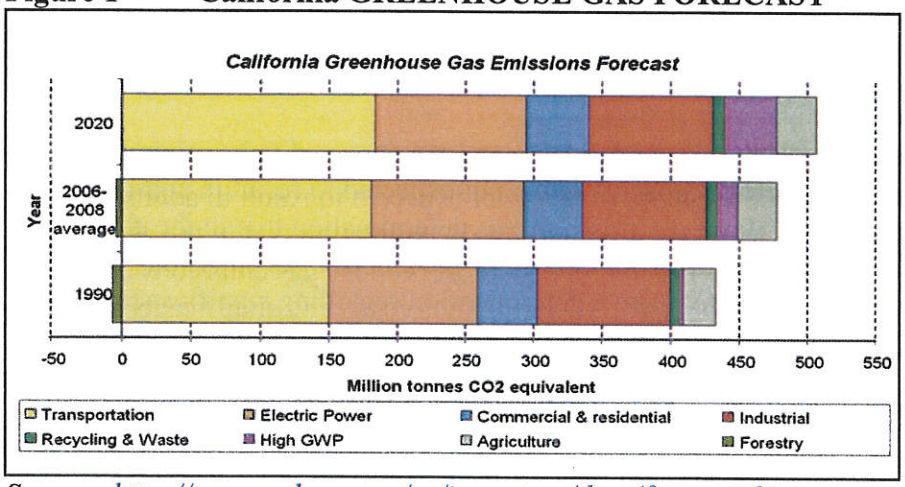
Project Analysis

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

emissions when combined with the contributions of all other sources of GHG.[2] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines sections 15064(h)(1) and 15130). To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 contains the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, ARB released the GHG inventory for California (forecast last updated: October 28, 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 1 California GREENHOUSE GAS FORECAST



Source: 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, the Department has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.[3]

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

[3] Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

The operation of this project would result in low-to-no potential for an increase in GHG emissions. The purpose of this project is to reduce or minimize the amount of soil erosion along the right of way into a nearby creek. No operational activities that would result in GHG emissions are anticipated. As discussed below, construction emissions will be unavoidable.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. However, because this project is mainly motivated by concern for biological and water resource impacts, greenhouse gas emissions from this project will primarily result from construction with no anticipated operational emissions. 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.

CEQA Conclusion

Although construction emissions are unavoidable and are expected to be minimal, the proposed project will not increase capacity and is not expected to result in additional operational CO_2 emissions. 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 significance of the project's direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas 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 resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)[4].

Greenhouse Gas Mitigation

AB 32 Compliance

The Department continues to be actively involved on the Governor's Climate Action Team as ARB works to implement 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.

The following measures will 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 commonly consists of electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.

2. While the removal of invasive plants along the project areas of Hwy 17 may result in a loss of carbon sequestration potential, Caltrans plans to replant the vegetation at ratios of 10:1 for native trees and 1:1 for all other vegetation being removed.

3. Compliance with Title 13, California Code of Regulations §2449(d)(3)—Adopted by the Air Resources Board on June 15, 2008, this regulation would restrict idling of construction vehicles to no longer than 5 consecutive minutes. The Contractor must comply with this regulation in order to reduce harmful emissions from diesel-powered construction vehicles.

4. To the extent that it is feasible for the project, the use of reclaimed water may be used to reduce GHG emissions produced during construction. Currently 30 percent of the electricity used in California is used for the treatment and delivery of water. Use of

[4] http://climatechange.transportation.org/ghg_mitigation/

reclaimed water helps conserve this energy, which reduces greenhouse gas emissions from electricity production.

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, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

Interim guidance has been released by The Coastal Ocean Climate Action Team (CO-CAT) as well as the Department as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise.

All projects that have filed a Notice of Preparation as of the date of EO S-13-08, and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines. The proposed project is outside the coastal zone and direct impacts to transportation facilities due to projected sea level rise are not expected.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise 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.